

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

CONFIDENTIAL

FORM 3

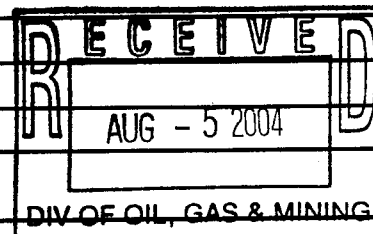
AMENDED REPORT ☐
(highlight changes)

001

APPLICATION FOR PERMIT TO DRILL <i>utu-73528</i>				5. MINERAL LEASE NO: #46605	6. SURFACE: Federal
1A. TYPE OF WORK: DRILL <input checked="" type="checkbox"/> REENTER <input type="checkbox"/> DEEPEN <input type="checkbox"/>				7. IF INDIAN, ALLOTTEE OR TRIBE NAME:	
B. TYPE OF WELL: OIL <input checked="" type="checkbox"/> GAS <input type="checkbox"/> OTHER _____ SINGLE ZONE <input checked="" type="checkbox"/> MULTIPLE ZONE <input type="checkbox"/>				8. UNIT or CA AGREEMENT NAME: Wolverine Fed. Exploration Unit	
2. NAME OF OPERATOR: Wolverine Gas and Oil Company of Utah, LLC				9. WELL NAME and NUMBER: Wolverine Federal # 19-1	
3. ADDRESS OF OPERATOR: One Riverfront Plaza CITY Grand Rapids STATE MI ZIP 49503			PHONE NUMBER: (616) 458-1150		10. FIELD AND POOL, OR WILDCAT: Wildcat
4. LOCATION OF WELL (FOOTAGES) AT SURFACE: 857' FSL & 1,919' FWL - T23S-R1W, Sec 17 <i>SESW</i> AT PROPOSED PRODUCING ZONE: 660' FNL & 660' FEL - T23S-R1W, Sec 19 <i>NENE</i>				11. QTR/CTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: NENE 19 23S 1W	
14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE: 4.2 mile South of Sigurd				12. COUNTY: Sevier	13. STATE: UTAH
15. DISTANCE TO NEAREST PROPERTY OR LEASE LINE (FEET) appr. 400'		16. NUMBER OF ACRES IN LEASE: 8,236 ac		17. NUMBER OF ACRES ASSIGNED TO THIS WELL: 40	
18. DISTANCE TO NEAREST WELL (DRILLING, COMPLETED, OR APPLIED FOR) ON THIS LEASE (FEET) appr. 30'		19. PROPOSED DEPTH: 7,550		20. BOND DESCRIPTION: BLM # WY 3329	
21. ELEVATIONS (SHOW WHETHER DF, RT, GR, ETC.): GR-5,835'		22. APPROXIMATE DATE WORK WILL START: 9/15/2004		23. ESTIMATED DURATION: 40 days	

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	CASING SIZE, GRADE, AND WEIGHT PER FOOT			SETTING DEPTH	CEMENT TYPE, QUANTITY, YIELD, AND SLURRY WEIGHT		
20	14			80	Conductor		
12 1/2	9 5/8	36 ppf	J55 STC	1,510	lead:c,360sx,1.78,	12.8/tail:g, 280sx,1.20,	15.6
8 3/4	5 1/2	17 ppf	L80 LTC	7,550	lead:Poz,750sx,1.76,	13.0/tail:Poz, 350sx,1.49,	13.4



ATTACHMENTS

VERIFY THE FOLLOWING ARE ATTACHED IN ACCORDANCE WITH THE UTAH OIL AND GAS CONSERVATION GENERAL RULES:

- | | |
|--|--|
| <input checked="" type="checkbox"/> WELL PLAT OR MAP PREPARED BY LICENSED SURVEYOR OR ENGINEER | <input checked="" type="checkbox"/> COMPLETE DRILLING PLAN |
| <input checked="" type="checkbox"/> EVIDENCE OF DIVISION OF WATER RIGHTS APPROVAL FOR USE OF WATER | <input type="checkbox"/> FORM 5, IF OPERATOR IS PERSON OR COMPANY OTHER THAN THE LEASE OWNER |

NAME (PLEASE PRINT) **Richard Moritz**

TITLE **Vice President, Land & Legal**

SIGNATURE *Richard Moritz*

DATE **7-26-04**

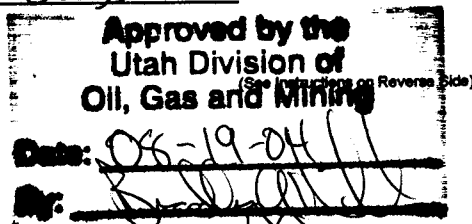
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API NUMBER ASSIGNED: **43-041-30033**

APPROVAL:

(11/2001)

Federal Approval of this
Action is Necessary



Surf.
418905X
4294496Y

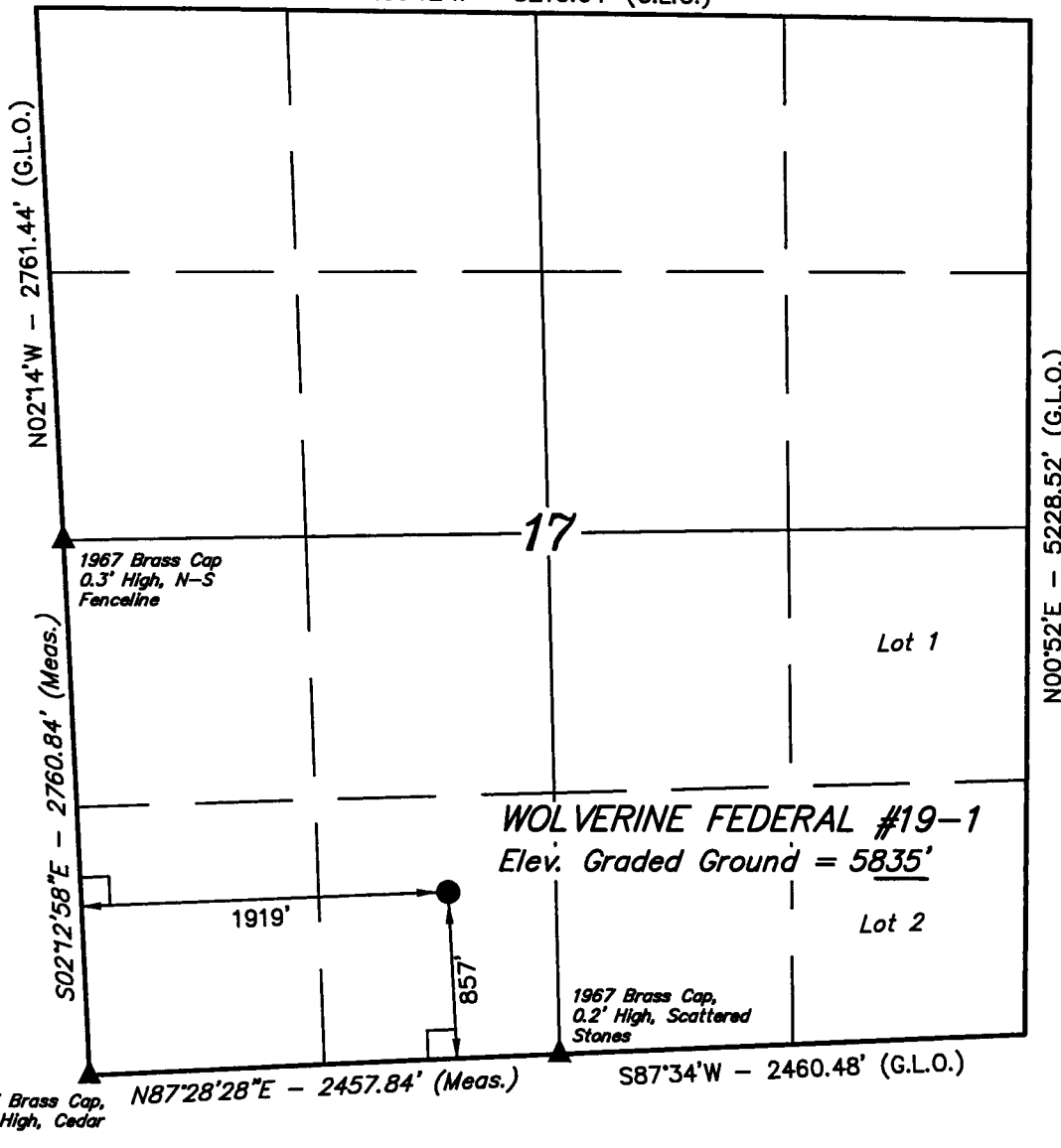
BHL
418119X
4294034Y

38.79736
-111.93383

38.79312
-111.94283

T23S, R1W, S.L.B.&M.

N89°12'W - 5210.04' (G.L.O.)



1967 Brass Cap,
0.2' High, Cedar
Post

LEGEND:

- └─┘ = 90° SYMBOL
- = PROPOSED WELL HEAD.
- ▲ = SECTION CORNERS LOCATED.

BASIS OF BEARINGS

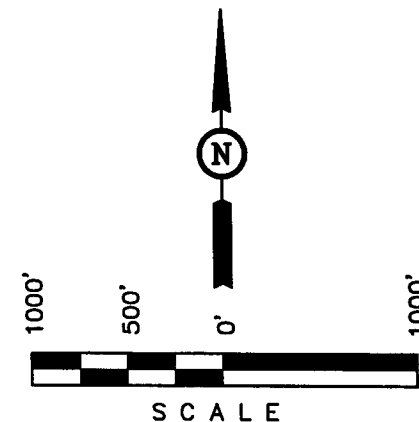
BASIS OF BEARINGS IS A G.P.S. OBSERVATION.
(AUTONOMOUS NAD 83)
LATITUDE = 38°47'51.34" (38.797594)
LONGITUDE = 111°56'05.14" (111.934761)

WOLVERINE GAS & OIL CORP.

Well location, WOLVERINE FEDERAL #19-1,
located as shown in the SE 1/4 SW 1/4 of
Section 17, T23S, R1W, S.L.B.&M., Sevier County,
Utah.

BASIS OF ELEVATION

SPOT ELEVATION LOCATED NEAR A ROAD IN THE SW 1/4 OF
SECTION 17, T23S, R1W, S.L.B.&M., TAKEN FROM THE SIGURD
QUADRANGLE, UTAH, SEVIER COUNTY, 7.5 MINUTE SERIES
(TOPOGRAPHICAL MAP) PUBLISHED BY THE UNITED STATES
DEPARTMENT OF THE INTERIOR, GEOLOGICAL SURVEY. SAID
ELEVATION IS MARKED AS BEING 5774 FEET.



CERTIFICATE

THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS PREPARED FROM
FIELD NOTES OF ACTUAL SURVEYS MADE BY ME OR UNDER MY
SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE
BEST OF MY KNOWLEDGE AND BELIEF.

REVISED: 7-7-04
REVISED: 5-27-04

CONFIDENTIAL
REGISTERED LAND SURVEYOR
No. 161349
ROBERT L. KAY
STATE OF UTAH

UINTAH ENGINEERING & LAND SURVEYING
85 SOUTH 200 EAST - VETERAN UTAH 84078
(435) 789-1017

SCALE 1" = 1000'	DATE SURVEYED: 3-4-04	DATE DRAWN: 3-10-04
PARTY G.O. D.J. C.G.	REFERENCES G.L.O. PLAT	
WEATHER COOL	FILE WOLVERINE GAS & OIL CORP.	

III. EXISTING ACCESS ROADS AND ROAD IMPROVEMENTS

The existing access road is identified and labeled on the project map. Steep, rough topography is not identified as a problem along our access route which was constructed by initially using fill material and covering it with approximately eight (8) inches of shale/gravel. Another layer of road base material, approximately four (4) inches in depth, was placed on top of the shale/gravel.

IV. LOCATION OF EXISTING WELLS

The recently drilled "King Meadow Ranches 17-1" well is situated approximately one-half mile northerly of this proposed well site location and is situated in the Southeast Quarter of the Northwest Quarter (SE/NW) of Section 17, Township 23 South, Range 1 West, Sevier County, Utah. "Wolverine Federal 17-2" is located approximately 28.3 feet southwesterly of this proposed well site and is situated in the Southeast Quarter of the Southwest Quarter (SE/SW) of Section 17, Township 23 South, Range 1 West, Sevier County, Utah.

V. DRILLING METHOD

Wolverine proposes to use a directional drilling program for the Wolverine Federal #19-1. The mountainous terrain of the area is such that directional drilling is the most efficient method to minimize surface disturbance. By locating the well pad on a relatively flat surface, and drilling a directional well beneath this challenging topography, Wolverine can most effectively minimize surface disturbance and ensure proper utilization of resources.

VI. LOCATION AND TYPE OF WATER SUPPLY

Water for drilling the Wolverine Federal #19-1 will be purchased from water wells nearby or drilled on location and pumped into storage tanks at the site. Water for drilling from nearby well(s) will be hauled to or pumped on location and stored in storage tanks on the drill site. Wastewater will not be discharged on the surface at this site and the drilling of the well will not require a wastewater management plan.

VII. CONSTRUCTION MATERIALS

In most circumstances, natural earth materials were used for the construction of roads and fills. These were taken from locations essentially contiguous to or nearby the

locations to be improved. When necessary, road base materials were used and delivered by the contractor for application on site and specifically as the initial fill material for the access road, which was then covered with approximately eight (8) inches of shale/gravel.

VIII. METHODS FOR HANDLING WASTE

The Reserve Pit was constructed on the well pad per the attached Well Site Location Layout (Attachment B). It will be used for the disposal of waste mud and drill cuttings and is located on the west/southwesterly portion of the well site plan. The pit dimensions are 125 feet X 225 feet and will be 10 feet deep. The pit was lined with a synthetic liner having a minimum thickness of 12 mills. Rules pursuant to R649-3-16 will be followed regarding the reserve pit as well as those governing Onshore Oil and Gas Operations (43 CFR 3160.)

Upon evaporation of fluids, pit closure occurs with the back fill of soil and its compaction to prevent settling. The usage of the pit is further described in the section VIII under pit closure.

All garbage will be taken off site and disposed of properly. Pursuant to R649-3-14, all rubbish and debris shall be kept in containers on the well site, and will be hauled to an approved disposal site upon completion of drilling and completion operations and as needed during such operations. There will be no chemical disposal of any type. Sewage is handled through the renting of portable toilets. These are serviced by the rental company and removed from site when no longer required.

IX. PLANS FOR RECLAMATION OF THE SURFACE

Pit closure: The pits will be fenced on three sides during all drilling operations and then the fourth side will be immediately fenced when the rig is moved off location. After evaporation of fluids, back-fill of sub-soil and compaction to prevent settling will occur within 90 days of the drilling and completing of the well. If necessary after 90 days, the fluids will be sucked out of the pit and transported off site.

The topsoil was stripped off and stock piled in an area not to be disturbed. The topsoil will be placed back on the pit after back filling and then prepped for re-seeding.

The approximate Pit size is indicated on the Well Site Location Layout diagram attached hereto (Attachment B).

Revegetation Methods: Disturbed areas will be disked, seeded and "dragged", as needed; seeding with a mixture approved by the local USDA Natural Resource Conservation Service or the Bureau of Land Management.

Wolverine generally requires at least twelve (12) pounds per acre of seed distribution. Wolverine suggests that autumn seeding practices be used due to the terrain in this project area. Spring rain events are common and tend to cause severe run-off. Fall seeding will allow any moisture, whether rain or snow, to assist the seed into the ground.

Other Practices: Other practices that will be utilized to reclaim disturbed areas will include riprap when and if necessary to prevent erosion and the installation of silt fencing in sensitive and/or erosive areas.

Timetable: Reclamation of the surface will commence as soon thereafter construction, drilling and well completion are concluded, as is practicable, depending on weather. In the event of a dry hole, the drill site and roadways will be restored to their original condition as nearly as practicable within 180 days after plugging date of the well.

X. SURFACE OWNERSHIP

The surface of the proposed well site is federally owned and is administered by the Bureau of Land Management, United States Department of Interior.

XI. WELLSITE LAYOUT

Please see the attached "Well Site Location Layout" (Attachment B) for the well configurations.

XII. PIPELINES AND STREAM CROSSINGS

PIPELINES: In the event of hydrocarbon production requiring transmission by pipeline, the proposed pipeline(s) will be designed, constructed, tested, operated and maintained in accordance with standard safety practices and by a combination of construction techniques intended to minimize to the greatest extent practical the impacts upon natural resources.

Pipelines will typically be installed by trenching. In these trenched areas, the contractor shall strip and stockpile topsoil to be replaced over the backfill portion upon completion of construction operations. Silt fencing will be installed at all stream crossings.

The proposed pipelines will be constructed with a combination of methods intended to minimize impacts to private, state and federally owned property, county roads and natural resources. The pipeline will be constructed by a combination of conventional construction techniques and special measures designed to minimize impacts to natural

resources. Pipelines will be adequately compacted before the topsoil is replaced for re-seeding.

In general and where required, soil erosion control measures will consist of appropriate BMPs (Best Management Practices) to reduce the potential for erosion. The BMPs that will be utilized in upland areas include use of construction barriers where appropriate, land clearing, spoil piles, staging and scheduling, seeding and mulching. Note that spoil piles will not typically be seeded since exposure of the spoil piles should be minimal in time. All other proper BMP measures will be implemented to reduce the potential for erosion. Seeding of all raw soils after burial of pipe will be performed. However, mulching will be performed only within state or county road right-of-ways.

Generally speaking, in wetlands, appropriate BMPs will be implemented to minimize the potential for soil erosion and point source pollution within wetland construction zones. These measures shall include, but not be limited to, clearing, barriers, staging, filters, silt fencing, spoil piles, dewatering, seeding, and mulching.

XIII. GENERAL

TIMELINE: The following is a general order of construction and sequence of earth change by which our operations will proceed:

- 1.) Access Road and Well Pad Construction
- 2.) Drilling and Well Completion Operations
- 3.) Initial Well Pad Restoration
- 4.) Clearing of Pipeline Rights-of-way (if needed)
- 5.) Delivery and Layout of Pipe
- 6.) Pipe Welding and Inspection
- 7.) Trenching of Pipe
- 8.) Placement and Burying of Pipe
- 9.) Final Restoration of Site/Access/Pipeline Route
- 10.) Re-Seeding

All hillsides, creek banks, and other places where contractor has moved earth to facilitate operations shall be restored to as near original condition as practical. Replaced

material and/or backfill will be protected from erosion to the satisfaction of Wolverine, the Bureau of Land Management and the Utah Division of Oil, Gas and Mining without undue delay.

Upon completion of any backfill, contractor shall clear pipeline rights-of-way and access routes of large rocks, stumps and other debris; fill holes, ruts and depressions, and shall keep the access road in a neat and acceptable condition. All cleanup shall be maintained by the contractor until final acceptance by Wolverine and the enforcing agency.

XIV. ENVIRONMENTAL IMPACT ASSESSMENT:

It is anticipated that the drilling and operations planned, provided the success of this well, will not have any adverse affects to any wildlife or aquatic life in the area. There will be only a minor effect on the surface cover. Drilling and production operations should have minimal effect on the population patterns, land use, public utilities or public services in the near future for this rural area.

Noise levels during drilling and completion operations may be continuous but not unusually high. If production is achieved, noise levels should be minimal during the operation and maintenance of the wells.

Necessary soil erosion and sedimentation safeguards will be built into the well pad, access and future proposed pipeline routes to protect any nearby lowlands, where appropriate. Particular care will be exercised in order that all drain ditches be maintained and kept unobstructed to prevent water backup against spoil banks or backfill, causing erosion. The cumulative long-term effect on the immediate environment should be minimal.

If the well is productive, the effect on the air quality in the area is expected to be practically non-existent. Human activity in this area is somewhat limited, due to the nature of the location. Ranching operations and any activities in the area should not be adversely affected.

The site will then be contoured as closely as practical to its natural state, fine graded and stabilized. The well site and access route will be restored as soon as practical. If a well is productive, existing dikes will be maintained and erosion control procedures, as specified and required by the Bureau of Land Management, will be followed to insure protection of the local ecosystem.

Cultural

Please see, "Attachment E", Cultural Resource of A Well Pad and Access Route Near Sigurd, Sevier County, Utah.

Wildlife

Please see "Attachment D", a summary of Wildlife and Vegetative Species of Concern.

XV. SUMMARY:

In conclusion, the environmental impact of this project is considered to be minimal and every effort will be made to ensure the protection and preservation of the environment, as well as the standard of living for those affected by its operation.

This proposed project is aimed at increasing the hydrocarbon reserves within the State of Utah. In addition, in the event that production can be established in this project, it will be of financial benefit to the private holders of oil and gas rights within the "Wolverine Federal Exploration Unit", including the Bureau of Land Management in fulfillment of its stewardship responsibilities over federally owned oil and gas assets. We consider the environmental impact of this project to be slight and we will make every effort to be conscientious operators and to insure protection and preservation of the environment during the course of our drilling and producing operations.

Sincerely,

Wolverine Gas and Oil Company of Utah, LLC

By: 

Shawn Burd

Authorized Permitting Agent:

Western Land Services – Western Division
54 West Seymour Street
Sheridan, WY 82801
Donald L. Anderson, Chief Operating Officer
Phone: 307-673-1817
Local Contact: Shawn Burd
Phone: 435-896-1943

BOND STATEMENT

Bond coverage pursuant to 43 CFR 3104 for lease activities is being provided by Wolverine Gas and Oil Company of Utah, LLC with their Bond, filed with Bureau of Land Management in the amount of \$25,000.

The Bond Number is WY3329

OPERATOR'S REPRESENTATIVE AND CERTIFICATIONS

The responsible field representative for the Wolverine Federal #19-1, on behalf of Wolverine Gas and Oil Company of Utah, LLC, is Steve Hash, PE, available via Wolverine Gas and Oil Company of Utah, LLC, One Riverfront Plaza, 55 Campau NW, Grand Rapids, MI 49503. (616) 458-1150.

I hereby certify that I, or persons under my direct supervision, have inspected the drill site and access route; that I am familiar with the conditions that currently exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and that the work associated with operations proposed herein will be performed by Wolverine Gas and Oil Company of Utah, LLC and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved. This statement is subject to the provisions of 18 U.S.C. 1001 for the filing of a false statement.

Date:

July 28, 2004

Name and Title:


Richard Moritz, Vice-President, Land and Legal

CONFIDENTIAL

BLM Bond No. WY3329

OPERATOR RIDER

This rider is being submitted to comply with 43 CFR 3104.2 which states "... The operator on the ground shall be covered by a bond in his/her own name as principal, or a bond in the name of the lessee or sublessee, provided that a consent of the surety, or the obligor in the case of a personal bond, to include the operator under the coverage of the bond is furnished to the Bureau of- fice maintaining the bond."

The obligor hereby agrees to extend the coverage of their bond to include liabilities for operations conducted by Wolverine Gas and Oil Company of Utah, LLC and Wolverine Gas and Oil Company of Wyoming, LLC on Federal oil and gas leases.

Coverage includes the performance of all lease obligations, both past and future, including the responsibility to properly plug and abandon any and all wells, including related surface restoration, and to pay any outstanding rentals or royalties due.

This coverage of operations shall continue whether or not the lease subsequently expires, terminates, is canceled, or relinquished; provided, however, that this rider shall not act to increase the actual cumulative or potential liability of the obligor above the face amount of the bond.

Executed this 3rd day of March, 2004.

Witness:

Evelyn Telgen
Evelyn Telgen

One Riverfront Plaza, 55 Campau NW
Grand Rapids, MI 49503-2616
Address of witness

Wolverine Gas and Oil Corporation
Obligor

Gary R. Blecker
For Obligor: Gary R. Blecker
Vice President and COO

One Riverfront Plaza, 55 Campau NW
Grand Rapids, MI 49503-2616
Obligor's address

WOLVERINE GAS AND OIL COMPANY OF UTAH, LLC

DRILLING PROGNOSIS

Wolverine Federal #19-1
NE NE SEC 19-T23S-R1W
SEVIER CO., UTAH

BRIEF DRILLING PLAN

Due to surface topography constraints, directionally drill a 7550' MD (6650'TVD) test of the Navajo 1 formation on a day work contract basis from Wolverine's present work area known as Drill Pad B-1 located in Sec 17 T23S – R01W, Sevier Co, UT. Please refer to the directional drilling plan attached for detailed hole angle, trajectory and target information. Deviation is the primary drilling concern in this area. No abnormal pressure or hydrogen sulfide gas is expected, however, an H2S detector will be utilized. The projected surface and bottom hole locations are to be as follows:

Surface Location: 857' fsl & 1919' fwl of Sec 17 T23N – R01W
BHL @ top of NVJO1 (6035' TVD) 660' fml & 660' fel of Sec 19 T23N – R01W

14" conductor casing will be cemented to surface at approximately 80 ft BGL. 9-5/8" surface casing will be set & cemented to surface in a 12-1/4" hole deviated to approximately 10 deg at +/-1506' (+/-1500' TVD). An 8-3/4" hole will then be drilled to +/- 7550' (6650' TVD). 5-1/2" production casing will then be set & cemented to 500' into the surface casing.

EMERGENCY NUMBERS

Sevier Valley Medical Center	(435)-896-8271
Medical Helicopter	(800)-453-0120
Sheriff Department	(435)-896-2600
Fire Department-Richfield, UT	(435)-896-5479
Bureau of Land Management (Richfield):	(435)-896-1500
Bureau of Land Management (Salt Lake City)	(801) 539-4045
Utah Division of Oil, Gas and Mining (Salt Lake City):	(801)-538-5340

Bureau of Land Management:

Contact Al McKee with BLM (801) 539-4045 24 hrs prior to 1) spudding, running and cementing all casing strings 2) Pressure testing of BOPE or any casing string 3) Pressure integrity test (mud weight equivalency test) of each casing shoe.

NOTE: Ensure the rig, the cementing and testing procedures ALL comply with BLM and Onshore Oil and Gas Order No.2, requirements .

Utah Division of Oil, Gas and Mining

Contact Carol Daniels (801) 538-5284, 24 hrs prior to spudding

GENERAL INFORMATION

OBJECTIVE: Navajo 1 @ 6035' (TVD)

ELEVATION: 5835' GL (est)

PROJECTED TOTAL DEPTH:

7,550 MD; 6650' TVD

SURFACE LOCATION:

857' FSL & 1919' FWL
Section 17-23S-1W

COUNTY: Sevier

STATE: Utah

DIRECTIONS TO LOCATION:

From town of Sigurd, Utah go south approximately 4.5 miles on Hwy #24 to location on the right side of road.

PROPOSED CASING PROGRAM:

Hole Size	Casing Size	Wt./Ft.	Grade	Joint	Measured Depth Set
	14"				80'
12¼"	9-5/8"	36#	J-55	STC	0'-1,510'
8-3/4"	5½"	17#	L-80	LTC	0'-7,550'

Hole Size	Casing Size	Drift ID, in.	OD of Couplings	Annular Volume in OH, cf/ft	Annular Volume in Csg, cf/ft	Capacity of casing, cf/ft
	14"					
12¼"	9-5/8"	8.379	10.625	0.3127	0.4659	0.4340
8-3/4"	5½"	4.767	6.050	0.2526	0.2691	0.1305

GEOLOGIC INFORMATION:

Formation	Interval (TVD)	Interval (MD)	Lithology	Prod	Abnormal Psi
Arapien	Surf – 5739'	Surf – 6602'	Shale, siltstone, salt, evaporites		
TwinCreek1	5739' - 6035'	6602' – 6917'	Carbonates		
Navajo 1	6035' - 6450'	6917' – 7350'	Sandstone w/ minor shale	X	
Total Depth	6650'	7550'	Sandstone w/ minor shale		

CONSTRUCTION OF SURFACE LOCATION

325'x 175' Pad
 225'x 125' x 10' Reserve Pit with a 12 mil synthetic liner
 72" diameter tin horn cellar, 4' to 5' deep.
 Flare pit a minimum of 100' from wellhead.

SURFACE HOLE: 0' to 1510'

Directionally drill a 12-1/4" hole with a TCI rock bit, mud motor & MWD equipment to approximately 1510' using fresh water and gel/lime sweeps when necessary (make hole to fit 9-5/8" casing). Loss circulation is not expected to be a problem in this interval. If losses do occur, begin pumping LCM sweeps. If loss circulation cannot be healed with ± 25 ppb LCM, consider dry drilling (no returns). Run survey at every 200' and at TD or as needed to insure bottom hole location.

PRESSURE CONTROL & SAFETY EQUIPMENT FOR SURFACE HOLE**Bottom to Top**

14" x 13-5/8" 3M weld on flange
 13-5/8" 3M x 13-5/8" 3M spacer spool w/ 3" outlets & valves.
 13-5/8" 3M Annular preventer, connected to accumulator with enough capacity to close annular and retain 200 psi above pre-charge pressure
 13-5/8" Drilling Nipple with fill up and circulating line.
 Upper kelly cock valves with handles available

Test Annular to 1500 psi. Test all valves and lines.

MUD PROGRAM FOR SURFACE HOLE

DEPTH	MUD WEIGHT	TYPE	VISC	PH	FLUID LOSS
0 - 1510'	8.4 - 8.9	FW/Gel/Lime	26-45	7-9	N/C

Note: Sweep hole every 100 - 200 feet or as needed for hole cleaning. Control the pH with Lime & Caustic to aid in gel flocculation for better carrying capacity.

CASING PROGRAM FOR SURFACE HOLE

DEPTH	SIZE	LENGTH	WT	GRADE	THREAD	REMARKS
0 - 1510'	9 5/8"	1510'	36#	J-55	ST&C	

Casing Running Sequence:

Texas pattern notched guide shoe,

1 jt of 9 5/8" 36# J-55 ST&C

Float collar

Balance of 9-5/8" 36# J-55 ST&C

10 - centralizers equally spaced.

RU cement co., hold safety meeting, test lines, cement 9-5/8" casing per cement company recommendation. Displace with fresh water or mud if used. *Do not overdisplace cement.*

CEMENTING PROGRAM FOR SURFACE HOLE

Lead:

360 sx 35:65 Poz: Class C or type 5

6% Bentonite

1% Calcium Chloride

0.25 lb/sx Cello Flake

Mixed at: 12.8 ppg

Yield: 1.78 ft³/sx

Water: 9.42 gal/sx

Tail:

280 sx Class G

2% Calcium Chloride

.25 lb/sx Cello Flake

Mixed at: 15.6 ppg

Yield: 1.20 ft³/sx

Water: 5.25 gal/sx

MUST CIRCULATE CEMENT TO SURFACE per BLM requirements. If the cement does **not** circulate to surface contact the BLM office at (435) 896-1500. They will require either a temperature survey or a cement bond log to be run, then determine what remedial action will be taken before drilling out.

WOC A TOTAL OF 24 HOURS:

Wait 4 hours with the hydrostatic pressure of the displacement fluid in place, then cut off conductor and weld on an 11" 3M x 9-5/8" SOW casing head. NU BOPE and choke manifold.

**PRESSURE CONTROL AND SAFETY EQUIPMENT FOR
PRODUCTION STRING****Bottom to Top**

11" 3M x 9-5/8" csg head.

11" 3M x 11" 3M spacer spool

11" 3M Double Ram Preventer w/ 4-1/2" Pipe ram on top and blind ram on bottom. Two side outlets, choke side will have two 3" x 3M gate valves. Kill side will have two 2-1/16 x 3M gate valves and one 2" x 3M check valve.

Connect BOP to choke manifold with pressure guage.

11" 3M Annular preventer.

11" 3M short rotating head with fill-up line

Upper kelly cock valves with handles available

Safety valves and subs to fit all drill string connections in use

Inside BOP or float sub available

Testing Procedure:**Annular Preventer**

The annular preventer will be pressure tested to 1500 psi for a period of ten minutes or until provisions of the test are met, whichever is longer. At a minimum, the pressure test will be performed:

- 1) When the annular is initially installed
- 2) Whenever any seal subject to test pressure is broken
- 3) Following related repairs and at 30 day intervals

The annular preventer will be functionally operated once per week.

Blowout Preventer

The BOP, choke manifold and related equipment will be pressure tested to 2500 psi, 70% of the internal yield of the casing. Pressure will be maintained for a period of at least ten minutes or until the requirements of the test are met, whichever is longer. At a minimum the pressure test will be performed.

- 1) When the BOP is initially installed
- 2) Whenever any seal subject to test pressure is broken
- 3) Following related repairs and at 30 day intervals

The pipe and blind rams will be activated each trip, but not more than once each day. All BOP drills will be recorded in the IADC driller's log.

Accumulator:

The accumulator will have sufficient capacity to open the hydraulically controlled gate valve (if so equipped), close all rams plus the annular preventer, and retain a minimum of 200 psig above pre-charge on the closing manifold without the use of the closing unit pumps. The reservoir capacity will be double the accumulator capacity, and the fluid level will be maintained at the manufacturer's recommendations. The accumulator shall have 2 independent power sources to close the preventers. Nitrogen bottles may be one of the independent power sources and, if so, shall maintain a charge equal to the manufacturer's specifications.

The accumulator pre-charge pressure test will be conducted prior to connecting the closing unit to the BOP stack and at least once every six months thereafter. The accumulator pressure will be corrected if the measured pre-charge pressure is found to be above or below the maximum or minimum limits specified in Onshore Oil & Gas Order Number 2 (only nitrogen gas may be used to pre-charge).

Choke Manifold Equipment, Valves and Remote Controls

All choke lines will be straight lines unless turns use tee blocks or are targeted with running tees, and will be anchored to prevent whip and vibration

A valve will be installed in the closing line as close as possible to the annular preventer to act as a locking device. This valve will be maintained in the open position and will be closed only when the power source for the accumulator is inoperative.

Remote controls shall be readily accessible to the driller. Remote controls will be capable of both opening and closing all preventers. Master controls will be at the accumulator and will be capable of opening and closing all preventers and the choke line valve (if so equipped).

The choke manifold and BOP extension rods with hand wheels will be located outside the rig sub structure. The hydraulic BOP closing unit will be located at least twenty-five feet from the well head but readily accessible to the driller. Exact locations and configurations of the hydraulic BOP closing unit will depend upon the particular rig contracted to drill this well.

A flare line will be installed after the choke manifold, extending 125 feet from the center of the drill hole to a separate flare pit

PRODUCTION HOLE: 1,510' TO 7,550'

Trip in the hole with an 8 3/4" insert bit, mud motor & MWD. Drill float, shoe and 20' of new hole. Perform an integrity test to 820 psi (10.5 ppg mud wt equivalent). Drill with a salt saturated mud to the top of the Twin Creek formation.

MUD PROGRAM FOR PRODUCTION HOLE

<u>DEPTH</u>	<u>MUD WEIGHT</u>	<u>TYPE</u>	<u>VISC</u>	<u>pH</u>	<u>FLUID LOSS</u>
1510' - 6500'	9.8 - 10.3	Saturated Salt	34-45	9.0-10.0	20cc or Less
6500' - 7550'	9.8 - 10.3	Saturated Salt	36-45	9.0-10.0	12cc or Less

Add bulk salt to increase weight to 9.8 ppg. Maintain the pH at 9.0 to 10.0 using lime and caustic. Walk viscosity up to 34 cp. Start bringing fluid loss up to 20 cc. If loss circulation becomes a problem use LCM sweeps to control seepage & clean hole.

EVALUATION PROGRAM FOR PRODUCTION HOLE

At TD, circulate and condition hole clean for logs. Short trip to the last bit trip depth monitoring well closely for flow. TOH for logs.

Mudlogger: From surface casing to total depth.

Electric Logs:

<u>Tool</u>	<u>Surf csg to TD</u>
Dipole Sonic w/ GR	Yes
Dual laterolog and microlog w/ GR & Caliper	Yes, GR to surf
LithoDensity/Neutron w/ GR & Caliper	Yes
Micro Imaging Dipmeter	Yes

DST: To be decided

Cores: To be decided

CASING PROGRAM FOR PRODUCTION HOLE

DEPTH	SIZE	LENGTH	WT	GRADE	THREAD	REMARKS
0' - TD'	5 ½	7550'	17.0#	L-80	LT&C	

Rig up casing tools and run 5 ½" production casing as follows:

Float shoe

2 joint of 5 ½" 17.0# L-80 LT&C casing

Float collar

28 Centralizers, middle shoe joint and one every other joint to 5000'.

Run balance of 5 ½" 17.0# L-80.

CEMENT PROGRAM FOR PRODUCTION CASING**Lead:**

750 sx (50:50) Poz: Premium

3 % Bentonite

0.4% Halad R-567 (Low Fluid Loss Control)

15 % Salt

5 lbm/sk Gilsonite

0.3% D-AIR 3000 (Defoamer)

0.25 lb/sx Flocele

Weight: 13.0 ppg

Yield: 1.76 ft³/sx

Water: 8.44 gal/sx

Tail:

350 sx (50:50) Poz: Premium

2 % Bentonite

0.2% Halad R-322 (Low Fluid Loss Control)

3 % KCLSalt

3 lbm/sk Silicate Compacted (light Weight Additive)

1 lbm/sk Granulite TR ¼ (Lost Circulation Additive)

0.2% WG-17 (Suspension Agent)

0.25 lb/sx Flocele

Weight: 13.4 ppg

Yield: 1.49 ft³/sx

Water: 7.09 gal/sx

TOC at ± 1,000 ft

Calculate cement volume based on log caliper +/- 20%. Displace cement w/water.

Set slips, ND BOP's, cut off, NU & test wellhead. Clean pits and release rig.

SCHEDULE

Location preparation is presently scheduled to begin on or about August 15, 2004

Drilling operations are anticipated to begin on or about February 1, 2004

end

Wolverine Federal #19-1

The Wolverine Federal #19-1 well site is located approximately 4.2 miles southeast of the town of Sigurd in Township 23 South - Range 1 West, Section 19: Northeast Quarter of the Northeast Quarter (NE/NE) Salt Lake Base and Meridian in Sevier County, Utah.

The proposed Wolverine Federal #19-1 is situated adjacent to Highway 24 in a gentle rolling plains with hilly terrain on the west side. Plant habitat types within the area consist of a combination of Pinyon Pine– Juniper, located on the hillsides, and sagebrush – grass communities in the less gradient areas.

THE PROPOSED ACTIONS

The proposed depth is 7,550 feet for the Wolverine Federal #19-1 well. The well pad dimensions will be approximately 300 feet by 325 feet. The access road was constructed by initially using fill material and covering it with approximately 8 inches of shale/gravel. Another layer of road base material, approximately 4 inches in depth, will be placed on top of the shale/gravel.

WILDLIFE AND VEGETATIVE SPECIES OF CONCERN

Potential effects concerning federally endangered, threatened, proposed, candidate, sensitive, and management indicator wildlife and vegetative species has been evaluated in the proposed area of disturbance before any surface disturbing activities have occurred. It is understood that these activities and the proposed location will be monitored by a BLM staff or approved biologist. A habitat analysis has been completed to evaluate which species may occur in the area. Surface use guidelines will be followed as will surface use restrictions and time limit stipulations in the area of concern for all affected species.

It is understood that the Wolverine Federal #19-1 well site is situated within a designated critical deer wintering range. Proposed activities are not anticipated to occur during any such wintering range seasonal restrictions. There is also the possibility that small clumps of Penstemon plants may be located within this project area. Wolverine Gas and Oil Company of Utah, LLC will take all necessary steps to protect the species of concern and as stipulated by the Bureau of Land Management.

**Cultural Resource Inventory of A Well Pad and Access Route Near Sigurd, Sevier
County, Utah**



**Jason Bright
Mountain States Archaeology
7190 South State Street
Midvale, Utah 84047**

**Project Number U-04-MV-0262b
BLM Permit UT0380011**

April 5, 2004

Cultural Resource Inventory of A Well Pad and Access Route Near Sigurd, Sevier County, Utah

Project Description

In March 2004, Western Land Services contracted Mountain States Archaeology to perform Class III cultural resource inventory of a small well pad and access route in Sevier County, Utah on behalf of Wolverine Oil and Gas.

The well pad and access route are located in Township 23 South Range 1 West, SW Section 17 (Figure 1). A records search was performed for this project on March 2, 2004 at Utah SHPO. Upon returning the BLM Project Authorization, Craig Harmon at the Richfield BLM office forwarded records search information on March 26th, 2004. Fieldwork was completed March 28th 2004.

Records Search

The SHPO records search found no previously completed inventories or previously recorded sites within one mile of the well pad. The records search information provided by Craig Harmon (Richfield Field Office, BLM) found only U89BL464 which was the Sigurd/Kings Meadow Power Line. No sites were found on this project.

Methods

The parcel and access route were staked out prior to fieldwork. A crew of two inventoried the access route with one individual walking its staked centerline from Highway 24 to the well pad with another individual 15 meters south and west of the centerline, and walked back to the road along the centerline with an individual 15 meters to the north and east. Thus, the centerline was walked twice and the remainder of the corridor was walked once. The well pad was inventoried with the same crew of two individuals in parallel transects 15 meters apart. Upon completion, the boundary of the well pad was walked with a GPS unit to produce the map in Figure 1. The crew used a Trimble GeoXM.

Environment

The project location is located just west of highway 24, approximately 4 miles south of Sigurd, Utah. Ground visibility was good within the well pad and along the access route. Two steep drainages cut the parcel along its eastern and southern boundaries. Vegetation is composed sagebrush with various bunch grasses and forbs. Sediments are a light brown sand and silt.

Results

No cultural resources were located within the well pad or access route. This includes archaeological sites and isolated finds.



OLENE S. WALKER
Governor
GAYLE F. McKEACHNIE
Lieutenant Governor

State of Utah
DEPARTMENT OF NATURAL RESOURCES
Division of Water Rights

ROBERT L. MORGAN
Executive Director

JERRY D. OLDS
State Engineer/Division Director

April 12, 2004

Kings Meadow Ranches
C/O Mack Dastrup
P.O. Box 570125
Sigurd, UT 84657

RE: TEMPORARY CHANGE APPLICATION
t28851

Dear Sir:

The above numbered Temporary Change Application has been approved subject to prior rights and the following condition:

- ♦ The total amount of water diverted from Kings Meadow Creek will be limited to 14.0 acre-feet of water for uses associated with gas well drilling from May 30, 2004 to May 30, 2005. The historically irrigated land totaling 4.667 acres will not be irrigated.

Copies are herewith returned to you for your records and future reference.

Sincerely,

Kirk Forbush, P.E.
Regional Engineer
for Jerry Olds, State Engineer

JO/KF/cr
enclosure

APPLICATION FOR TEMPORARY CHANGE OF WATER

Rec. by Kf
DIVISION OF WATER RIGHTS
Fee Paid \$ 75.00
APR 7 2004 Receipt # 04-01540
Microfilmed _____
Roll # _____
RICHFIELD AREA

STATE OF UTAH

Ck # 2516

For the purpose of obtaining permission to make a temporary change of water in the State of Utah, application is hereby made to the State Engineer, based upon the following showing of facts, submitted in accordance with the requirements of Section 73-3-3 Utah Code Annotated 1953, as amended.

*WATER RIGHT NO. 63 2529 *APPLICATION NO. 1 28851

Changes are proposed in (check those applicable)

☒ point of diversion. ☒ place of use. ☒ nature of use. ☒ period of use.

1. OWNER INFORMATION

Name: Kings Meadow Ranches - Evan Dastrup *Interest: _____%

Address: P.O. Box 116

City: Sigurd State: Utah Zip Code: 84657

2. *PRIORITY OF CHANGE: 4/7/04 *FILING DATE: 4/7/04

3. RIGHT EVIDENCED BY: A Portion 63-2529

Prior Approved Temporary Change Applications for this right: _____

***** HERETOFORE *****

4. QUANTITY OF WATER: _____ cfs and/or 14 ac-ft.

5. SOURCE: Kings Meadow Creek

6. COUNTY: Sevier

7. POINT(S) OF DIVERSION: S 1,011', E 1,711' from NW corner of
Section 28, T23S, R1W

Description of Diverting Works: Kings Meadow Creek

8. POINT(S) OF REDIVERSION

The water has been rediverted from _____ at a point: _____

Description of Diverting Works: _____

9. POINT(S) OF RETURN

The amount of water consumed is _____ cfs or _____ ac-ft.

The amount of water returned is _____ cfs or _____ ac-ft.

The water has been returned to the natural stream/source at a point(s): _____

*These items are to be completed by the Division of Water Rights.

Temporary Change

10. NATURE AND PERIOD OF USE

Irrigation: From 04/1 to 10/31
Stockwatering: From 01/01 to 12/31
Domestic: From 01/01 to 12/31
Municipal: From _____ to _____
Mining: From _____ to _____
Power: From _____ to _____
Other: From _____ to _____

11. PURPOSE AND EXTENT OF USE

Irrigation: 4.667 acres. Sole supply of _____ acres.
Stockwatering (number and kind): _____
Domestic: _____ Families and/or _____ Persons.
Municipal (name): _____
Mining: _____ Mining District in the _____ Mine.
Ores mined: _____
Power: Plant name: _____ Type: _____ Capacity: _____
Other (describe): _____

12. PLACE OF USE

Legal description of place of use by 40 acre tract(s): Section 20, T23S, R1W, SE/4, SLBM

13. STORAGE

Reservoir Name: _____ Storage Period: from _____ to _____
Capacity: _____ ac-ft. Inundated Area: _____ acres.
Height of dam: _____ feet.
Legal description of inundated area by 40 tract(s): _____

***** THE FOLLOWING CHANGES ARE PROPOSED *****

14. QUANTITY OF WATER: _____ cfs and/or 14 ac-ft.

15. SOURCE: Kings Meadow Creek

Balance of the water will be abandoned: _____, or will be used as heretofore: _____

16. COUNTY: Sevier

17. POINT(S) OF DIVERSION: S 869', W 1,901' from SW corner of Section 17,
T23S, R1W, SLBM

Description of Diverting Works: _____

*COMMON DESCRIPTION: _____

18. POINT(S) OF REDIVERSION

The water will be rediverted from _____ at a point: _____

Description of Diverting Works: _____

19. POINT(S) OF RETURN

The amount of water to be consumed is _____ cfs or _____ ac-ft.

The amount of water to be returned is _____ cfs or _____ ac-ft.

The water will be returned to the natural stream/source at a point(s): _____

20 NATURE AND PERIOD OF

Irrigation: From ___/___/___ to ___/___/___
Stockwatering: From ___/___/___ to ___/___/___
Domestic: From ___/___/___ to ___/___/___
Municipal: From ___/___/___ to ___/___/___
Mining: From ___/___/___ to ___/___/___
Power: From ___/___/___ to ___/___/___
Other: From 05/30/04 to 05/30/05

21. PURPOSE AND EXTENT OF USE

Irrigation: _____ acres. Sole supply of _____ acres.
Stockwatering (number and kind): _____
Domestic: _____ Families and/or _____ Persons.
Municipal (name): _____
Mining: _____ Mining District at the _____ Mine.
Ores mined: _____
Power: Plant name: _____ Type: _____ Capacity: _____
Other (describe): Use water for gas well drilling

22. PLACE OF USE

Legal description of place of use by 40 acre tract(s): Section 17, T23S, R1W, SE/SW, SLBM

23. STORAGE

Reservoir Name: _____ Storage Period: from _____ to _____
Capacity: _____ ac-ft. Inundated Area: _____ acres.
Height of dam: _____ feet.
Legal description of inundated area by 40 tract(s): _____

24. EXPLANATORY

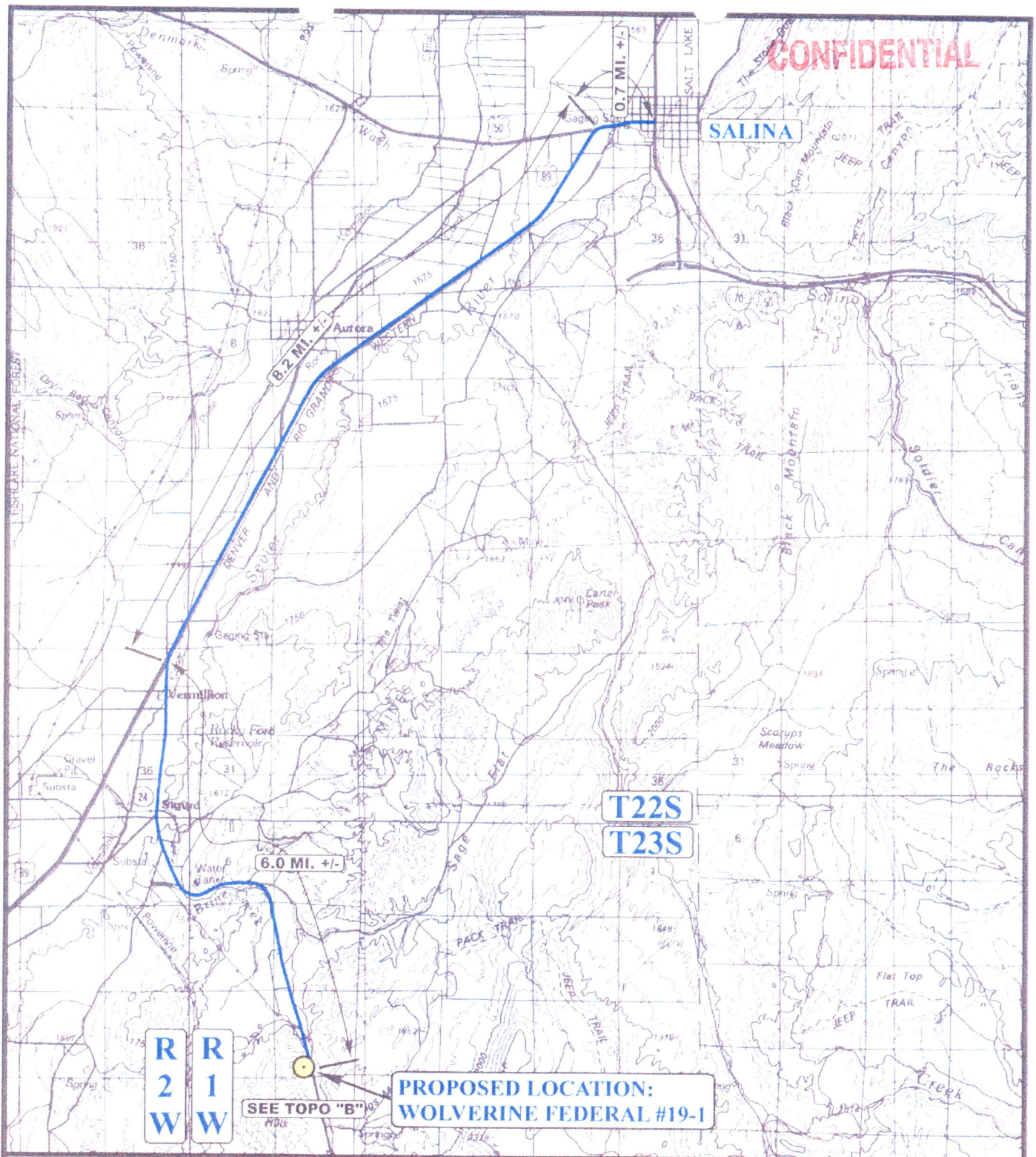
The following is set forth to define more clearly the full purpose of this application. Include any supplemental water rights used for the same purpose. (Use additional pages of same size if necessary): _____

Mack Dastrup (435) 896-5206	Kenneth Dastrup (435) 896-8759
P.O. Box 570125	P.O. Box 570056
Sigurd, Utah 84657	Sigurd, Utah 84657

The undersigned hereby acknowledges that even though he/she/they may have been assisted in the preparation of the above-numbered application through the courtesy of the employees of the Division of Water Rights, all responsibility for the accuracy of the information contained herein, at the time of filing, rests with the applicant(s).

Mack Dastrup
Signature of Applicant(s)

CONFIDENTIAL



LEGEND:

● PROPOSED LOCATION



WOLVERINE GAS & OIL CORP.

WOLVERINE FEDERAL #19-1
SECTION 17, T23S, R1W, S.L.B.&M.
SE 1/4 SW 1/4



Uintah Engineering & Land Surveying
85 South 200 East Vernal, Utah 84078
(435) 789-1017 * FAX (435) 789-1813

TOPOGRAPHIC
MAP

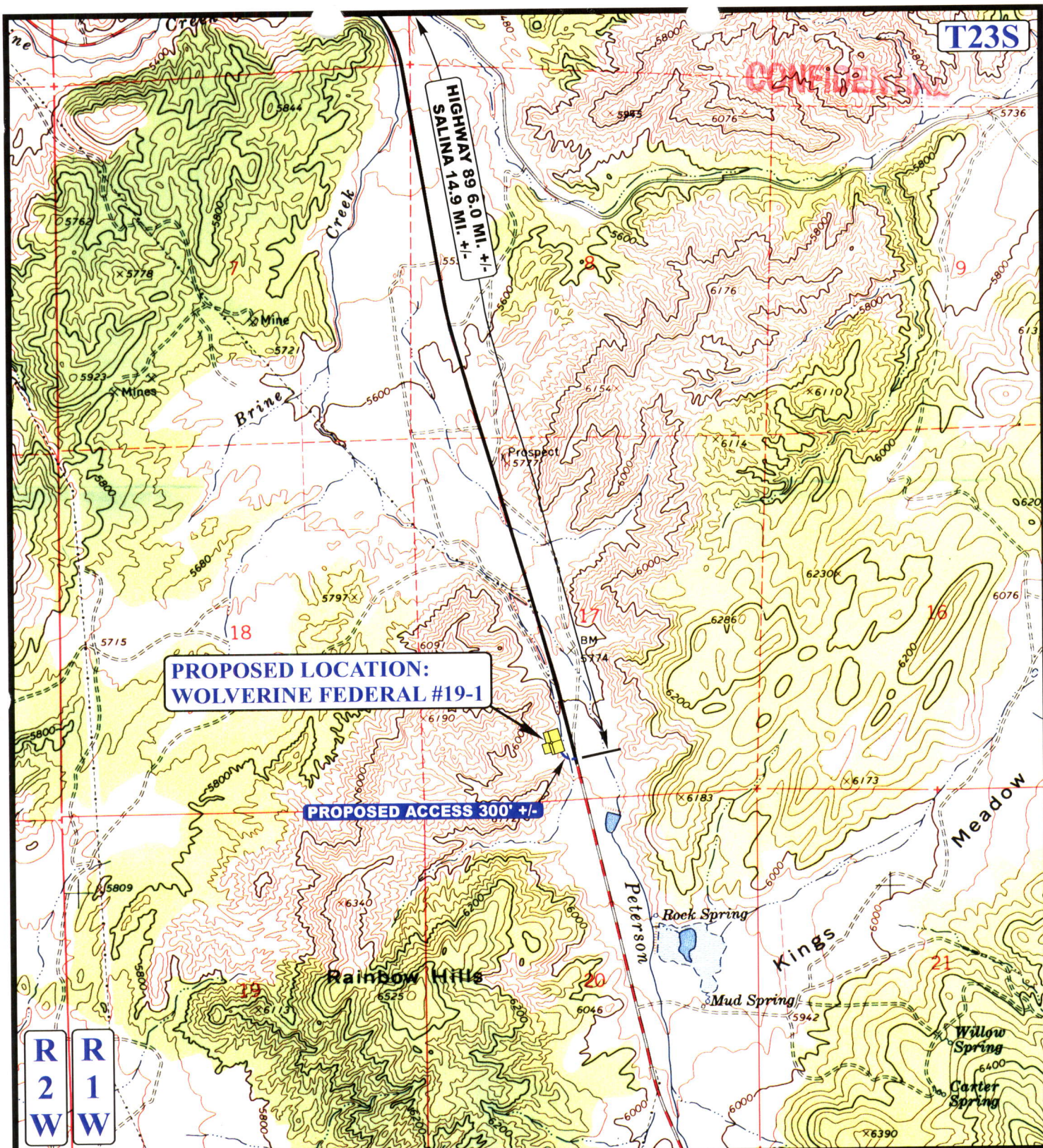
07 15 04
MONTH DAY YEAR

SCALE: 1:100,000

DRAWN BY: K.G.

REVISED: 00-00-00





LEGEND:

— EXISTING ROAD
 - - - PROPOSED ACCESS ROAD

WOLVERINE GAS & OIL CORP.

WOLVERINE FEDERAL #19-1
 SECTION 17, T23S, R1W, S.L.B.&M.
 SE 1/4 SW 1/4



Uintah Engineering & Land Surveying
 85 South 200 East Vernal, Utah 84078
 (435) 789-1017 * FAX (435) 789-1813



TOPOGRAPHIC
 MAP

07 15 04
 MONTH DAY YEAR

SCALE: 1" = 2000' DRAWN BY: K.G. REVISED: 00-00-00

B
 TOPO



WOLVERINE GAS & OIL CORP.

TYPICAL RIG LAYOUT FOR

WOLVERINE FEDERAL #19-1
SECTION 17, T23S, R1W, S.L.B.&M.

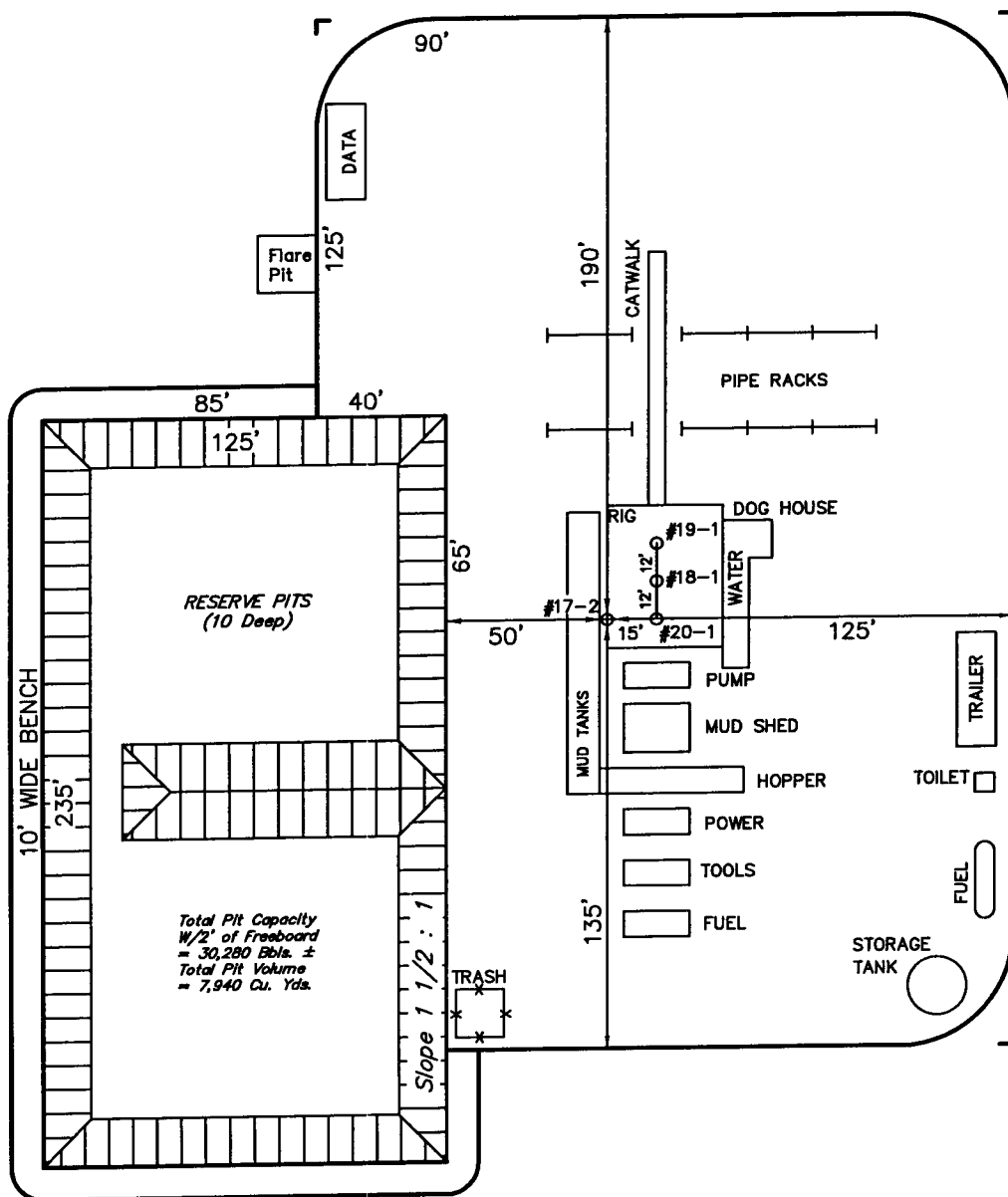
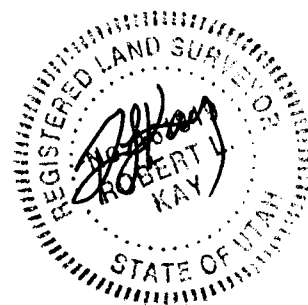
857' FSL 1919' FWL

SCALE: 1" = 60'

DATE: 6-17-04

Drawn By: C.G.

DATE: 7-7-04



UINTAH ENGINEERING & LAND SURVEYING

85 So. 200 East * Vernal, Utah 84078 * (435) 789-1017

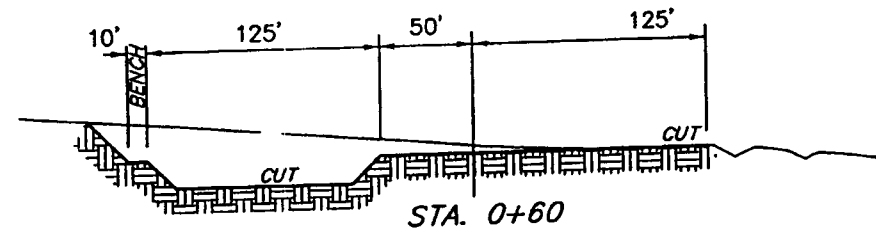
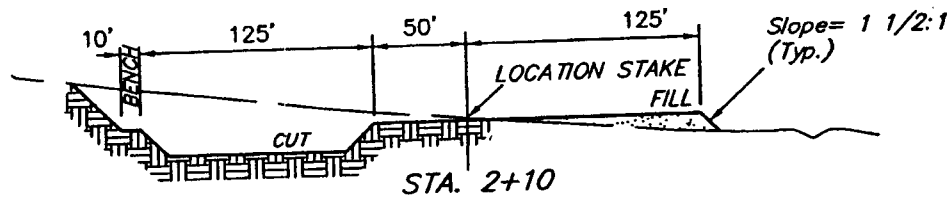
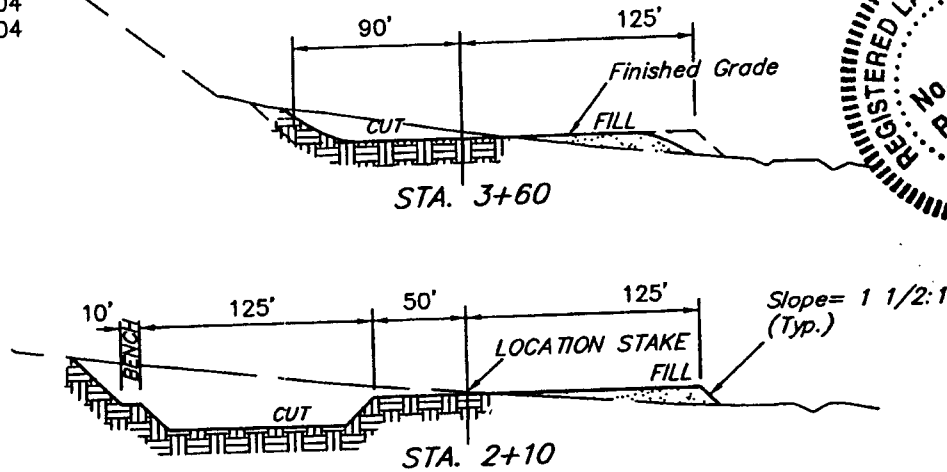
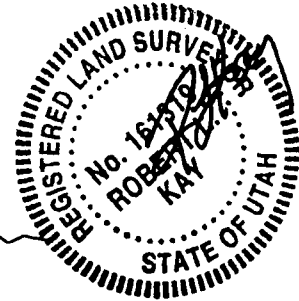
WOLVERINE GAS & OIL COR.
EXISTING CROSS SECTIONS FOR

WOLVERINE FEDERAL #19-1
SECTION 17, T23S, R1W, S.L.B.&M.
857' FSL 1919' FWL

FIGURE #2

1" = 40'
 X-Section
 Scale
 1" = 100'

DATE: 3-10-04
 Drawn By: C.G.
 DATE: 4-12-04
 DATE: 4-16-04
 DATE: 7-19-04
 DATE: 7-21-04



Preconstruction
 Grade

NOTE:
 Topsoil should not be
 Stripped Below Finished
 Grade on Substructure Area.

STA. 0+00

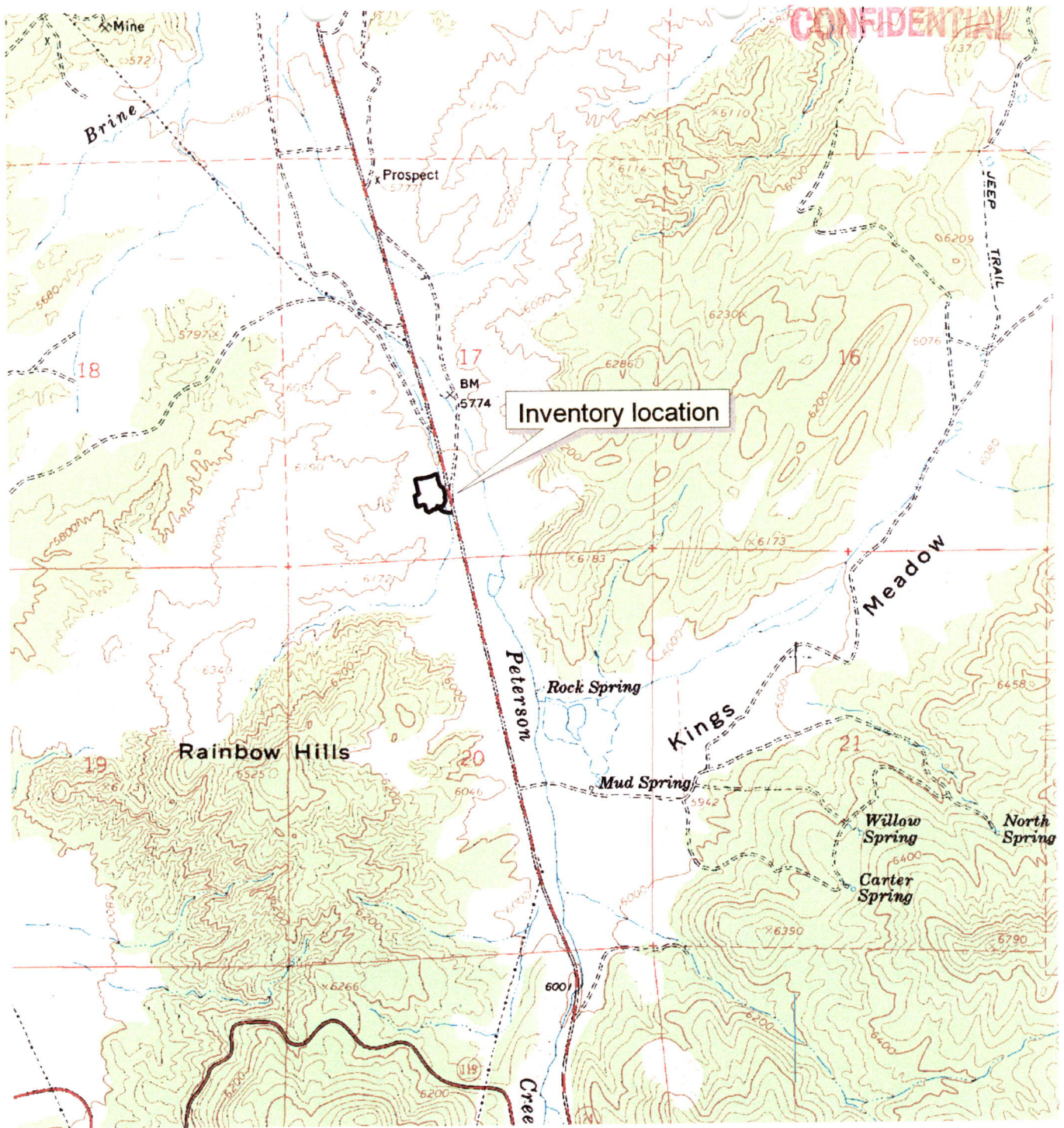
* NOTE:
 FILL QUANTITY INCLUDES
 5% FOR COMPACTION

APPROXIMATE YARDAGES

CUT
 (6") Topsoil Stripping = 2,240 Cu. Yds.
 Remaining Location = 25,900 Cu. Yds.
 TOTAL CUT = 28,140 CU.YDS.
 FILL = 4,980 CU.YDS.

EXCESS MATERIAL = 23,160 Cu. Yds.
 Topsoil & Pit Backfill = 6,300 Cu. Yds.
 (1/2 Pit Vol.)
 EXCESS UNBALANCE = 16,860 Cu. Yds.
 (After Rehabilitation)

UINTAH ENGINEERING & LAND SURVEYING
 85 So. 200 East • Vernal, Utah 84078 • (435) 789-1017



Sigurd USGS 7.5' Series Quad.
T. 23S R. 1W. Southwest Section 17





Wolverine Gas & Oil Co of Utah, LLC

Azimuths to True North
Magnetic North: 12.94°



Magnetic Field
Strength: 52128nT
Dip Angle: 64.57°
Date: 7/7/2004
Model: igf2000

Pad B-1
T23S R01W Sevier County, Utah
NW/4 SE/4 Sec 17

19-1 SFC Location
1919 FWL & 857 FSL Sec 17 23S 01W
Sevier County, UT

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	300.0	0.00	239.54	300.0	0.0	0.0	0.00	239.54	0.0	
3	1506.1	10.00	239.54	1500.0	-53.2	-90.5	0.83	239.54	105.0	
4	2367.9	35.85	239.54	2287.0	-222.0	-377.4	3.00	0.00	437.9	
5	6221.9	35.85	239.54	5410.6	-1366.5	-2323.1	0.00	0.00	2695.2	
6	6917.0	15.00	239.54	6035.0	-1517.0	-2579.0	3.00	180.00	2992.1	NVJ01 660' FN & 660' FE Sec 19
7	7553.7	15.00	239.54	6650.0	-1600.5	-2721.0	0.00	0.00	3156.9	

TARGET DETAILS

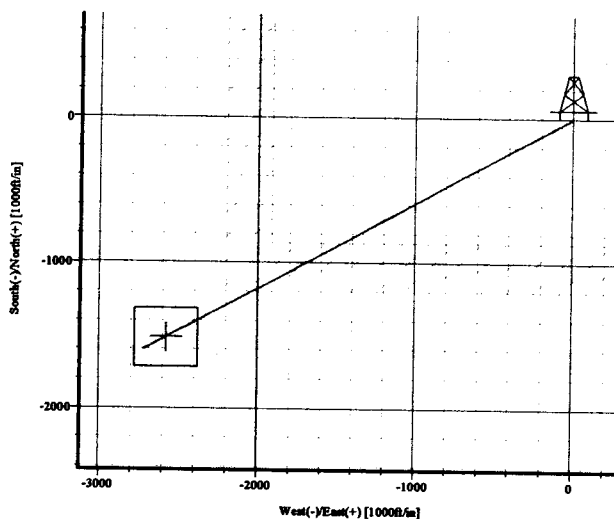
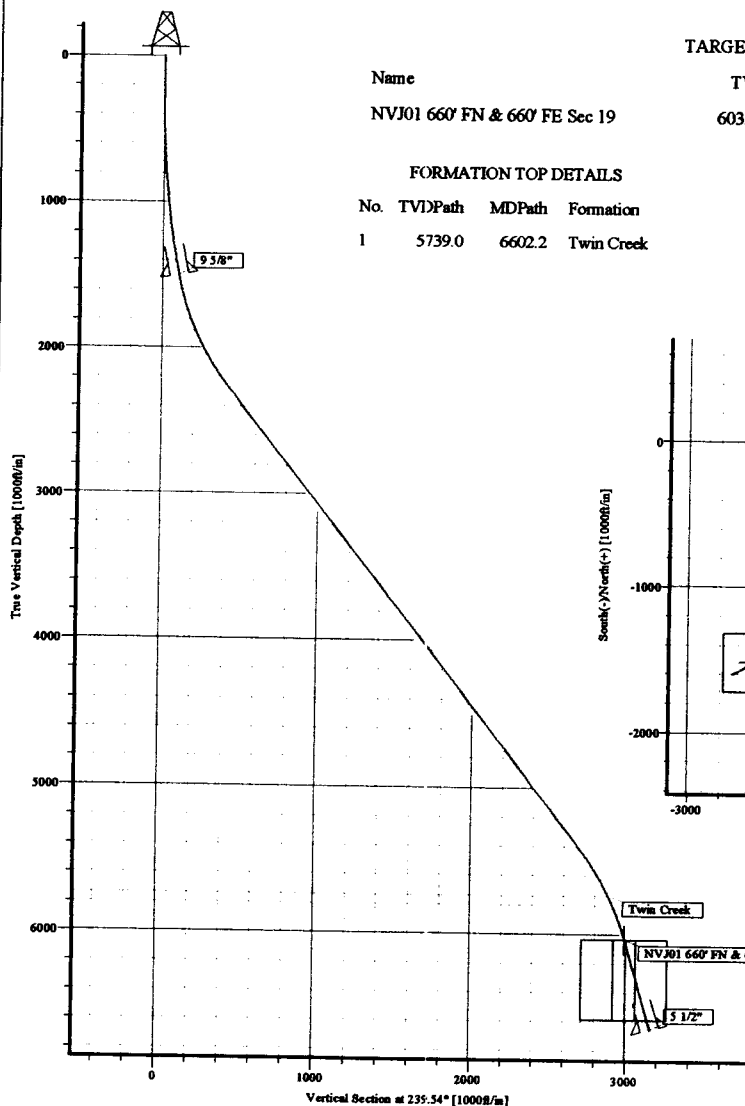
Name	TVD	+N/-S	+E/-W	Shape
NVJ01 660' FN & 660' FE Sec 19	6035.0	-1517.0	-2579.0	Rectangle (400x400)

FORMATION TOP DETAILS

No.	TVDPath	MDPath	Formation
1	5739.0	6602.2	Twin Creek

CASING DETAILS

No.	TVD	MD	Name	Size
1	1500.0	1506.1	9 5/8"	9.625
2	6650.0	7553.7	5 1/2"	5.500



Plan: Plan #1 (19-1/1)

Created By: Steve Schmitz, P.E.

Date: 7/14/2004

Checked: _____

Date: _____

Wetherford Directional Services

Exploration Report

000-000000

Company: Wolverine Gas & Oil Co of Utah	Date: 7/12/2004	Time: 12:03:37	Page: 1
Field: Sevier County, Utah	Co-ordinate(NE) Reference:	Well: 19-1, True North	
Site: Pad B-1	Vertical (TVD) Reference:	SITE 0.0	
Well: 19-1	Section (VS) Reference:	Well (0.00N,0.00E,239.54Azi)	
Wellpath: 1	Survey Calculation Method:	Minimum Curvature	Db: Sybase

Site: Pad B-1
Section 17 23S 1W Sevier County Utah
830' FSL & 1901' FWL

Site Position:	Northing:	169376.77 ft	Latitude:	38 47	51.068 N
From: Geographic	Easting:	1876068.36 ft	Longitude:	111 56	5.240 W
Position Uncertainty:		0.0 ft	North Reference:		True
Ground Level:		0.0 ft	Grid Convergence:		-0.28 deg

Survey Program for Definitive Wellpath

Date: 7/7/2004	Validated: No	Version: 0	
Actual From	To	Survey	Toolcode
ft	ft		Tool Name

Survey

Stn	MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	VS ft	DLS deg/100ft	Tool	Radius ft
	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00		
	100.0	0.00	239.54	100.0	0.0	0.0	0.0	0.00	MWD	
	200.0	0.00	239.54	200.0	0.0	0.0	0.0	0.00	MWD	
	300.0	0.00	239.54	300.0	0.0	0.0	0.0	0.00	MWD	
	400.0	0.83	239.54	400.0	-0.4	-0.6	0.7	0.83	MWD	
	500.0	1.66	239.54	500.0	-1.5	-2.5	2.9	0.83	MWD	
	600.0	2.49	239.54	599.9	-3.3	-5.6	6.5	0.83	MWD	
	700.0	3.32	239.54	699.8	-5.9	-10.0	11.6	0.83	MWD	
	800.0	4.15	239.54	799.6	-9.2	-15.6	18.1	0.83	MWD	
	900.0	4.97	239.54	899.2	-13.2	-22.4	26.0	0.83	MWD	
	1000.0	5.80	239.54	998.8	-18.0	-30.5	35.4	0.83	MWD	
	1100.0	6.63	239.54	1098.2	-23.4	-39.9	46.3	0.83	MWD	
	1200.0	7.46	239.54	1197.5	-29.7	-50.4	58.5	0.83	MWD	
	1300.0	8.29	239.54	1296.5	-36.6	-62.3	72.2	0.83	MWD	
	1400.0	9.12	239.54	1395.4	-44.3	-75.3	87.4	0.83	MWD	
	1506.1	10.00	239.54	1500.0	-53.2	-90.5	105.0	0.83	9 5/8"	
	1600.0	12.82	239.54	1592.0	-62.6	-106.5	123.6	3.00	MWD	
	1700.0	15.82	239.54	1688.9	-75.2	-127.8	148.3	3.00	MWD	
	1800.0	18.82	239.54	1784.4	-90.3	-153.5	178.0	3.00	MWD	
	1900.0	21.82	239.54	1878.1	-107.9	-183.4	212.8	3.00	MWD	
	2000.0	24.82	239.54	1970.0	-127.9	-217.5	252.3	3.00	MWD	
	2100.0	27.82	239.54	2059.6	-150.4	-255.7	296.7	3.00	MWD	
	2200.0	30.82	239.54	2146.8	-175.2	-297.9	345.6	3.00	MWD	
	2300.0	33.82	239.54	2231.3	-202.3	-344.0	399.1	3.00	MWD	
	2367.9	35.85	239.54	2287.0	-222.0	-377.4	437.9	3.00	MWD	
	2400.0	35.85	239.54	2313.0	-231.5	-393.6	456.7	0.00	MWD	
	2500.0	35.85	239.54	2394.1	-261.2	-444.1	515.2	0.00	MWD	
	2600.0	35.85	239.54	2475.1	-290.9	-494.6	573.8	0.00	MWD	
	2700.0	35.85	239.54	2556.2	-320.6	-545.1	632.4	0.00	MWD	
	2800.0	35.85	239.54	2637.2	-350.3	-595.6	691.0	0.00	MWD	
	2900.0	35.85	239.54	2718.3	-380.0	-646.1	749.5	0.00	MWD	
	3000.0	35.85	239.54	2799.3	-409.7	-696.5	808.1	0.00	MWD	
	3100.0	35.85	239.54	2880.4	-439.4	-747.0	866.7	0.00	MWD	
	3200.0	35.85	239.54	2961.4	-469.1	-797.5	925.2	0.00	MWD	
	3300.0	35.85	239.54	3042.5	-498.8	-848.0	983.8	0.00	MWD	
	3400.0	35.85	239.54	3123.5	-528.5	-898.5	1042.4	0.00	MWD	
	3500.0	35.85	239.54	3204.6	-558.2	-949.0	1101.0	0.00	MWD	
	3600.0	35.85	239.54	3285.6	-587.9	-999.5	1159.5	0.00	MWD	
	3700.0	35.85	239.54	3366.7	-617.6	-1049.9	1218.1	0.00	MWD	
	3800.0	35.85	239.54	3447.7	-647.3	-1100.4	1276.7	0.00	MWD	
	3900.0	35.85	239.54	3528.8	-677.0	-1150.9	1335.3	0.00	MWD	

Wetherford Directional Services

Exploration Report

(Continued)

Company: Wolverine Gas & Oil Co of Utah
Field: Sevier County, Utah
Site: Pad B-1
Well: 19-1
Wellpath: 1

Date: 7/12/2004 Time: 12:03:37 Page: 2
Co-ordinate(NE) Reference: Well: 19-1, True North
Vertical (TVD) Reference: SITE 0.0
Section (VS) Reference: Well (0.00N,0.00E,239.54Az)
Survey Calculation Method: Minimum Curvature Db: Sybase

Survey

Stn	MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	VS ft	DLS deg/100ft	Tool	Radius ft
	4000.0	35.85	239.54	3609.8	-706.7	-1201.4	1393.8	0.00	MWD	
	4100.0	35.85	239.54	3690.9	-736.4	-1251.9	1452.4	0.00	MWD	
	4200.0	35.85	239.54	3771.9	-766.1	-1302.4	1511.0	0.00	MWD	
	4300.0	35.85	239.54	3853.0	-795.8	-1352.9	1569.6	0.00	MWD	
	4400.0	35.85	239.54	3934.0	-825.5	-1403.4	1628.1	0.00	MWD	
	4500.0	35.85	239.54	4015.1	-855.2	-1453.8	1686.7	0.00	MWD	
	4600.0	35.85	239.54	4096.1	-884.9	-1504.3	1745.3	0.00	MWD	
	4700.0	35.85	239.54	4177.2	-914.6	-1554.8	1803.8	0.00	MWD	
	4800.0	35.85	239.54	4258.2	-944.3	-1605.3	1862.4	0.00	MWD	
	4900.0	35.85	239.54	4339.3	-974.0	-1655.8	1921.0	0.00	MWD	
	5000.0	35.85	239.54	4420.3	-1003.6	-1706.3	1979.6	0.00	MWD	
	5100.0	35.85	239.54	4501.4	-1033.3	-1756.8	2038.1	0.00	MWD	
	5200.0	35.85	239.54	4582.4	-1063.0	-1807.2	2096.7	0.00	MWD	
	5300.0	35.85	239.54	4663.5	-1092.7	-1857.7	2155.3	0.00	MWD	
	5400.0	35.85	239.54	4744.5	-1122.4	-1908.2	2213.9	0.00	MWD	
	5500.0	35.85	239.54	4825.6	-1152.1	-1958.7	2272.4	0.00	MWD	
	5600.0	35.85	239.54	4906.6	-1181.8	-2009.2	2331.0	0.00	MWD	
	5700.0	35.85	239.54	4987.7	-1211.5	-2059.7	2389.6	0.00	MWD	
	5800.0	35.85	239.54	5068.7	-1241.2	-2110.2	2448.1	0.00	MWD	
	5900.0	35.85	239.54	5149.8	-1270.9	-2160.7	2506.7	0.00	MWD	
	6000.0	35.85	239.54	5230.8	-1300.6	-2211.1	2565.3	0.00	MWD	
	6100.0	35.85	239.54	5311.9	-1330.3	-2261.6	2623.9	0.00	MWD	
	6200.0	35.85	239.54	5392.9	-1360.0	-2312.1	2682.4	0.00	MWD	
	6221.9	35.85	239.54	5410.6	-1366.5	-2323.1	2695.2	0.00	MWD	
	6300.0	33.51	239.54	5474.9	-1389.0	-2361.5	2739.7	3.00	MWD	
	6400.0	30.51	239.54	5559.7	-1415.9	-2407.2	2792.7	3.00	MWD	
	6500.0	27.51	239.54	5647.1	-1440.5	-2449.0	2841.2	3.00	MWD	
	6600.0	24.51	239.54	5737.0	-1462.7	-2486.7	2885.0	3.00	MWD	
	6602.2	24.44	239.54	5739.0	-1463.2	-2487.5	2886.0	3.00	Twin Cre	
	6700.0	21.51	239.54	5829.0	-1482.6	-2520.4	2924.1	3.00	MWD	
	6800.0	18.51	239.54	5923.0	-1499.9	-2549.9	2958.3	3.00	MWD	
	6900.0	15.51	239.54	6018.6	-1514.7	-2575.1	2987.6	3.00	MWD	
	6917.0	15.00	239.54	6035.0	-1517.0	-2579.0	2992.1	3.00	NVJ01 66	
	7000.0	15.00	239.54	6115.2	-1527.9	-2597.5	3013.6	0.00	MWD	
	7100.0	15.00	239.54	6211.8	-1541.0	-2619.8	3039.4	0.00	MWD	
	7200.0	15.00	239.54	6308.3	-1554.1	-2642.1	3065.3	0.00	MWD	
	7300.0	15.00	239.54	6404.9	-1567.3	-2664.4	3091.2	0.00	MWD	
	7400.0	15.00	239.54	6501.5	-1580.4	-2686.7	3117.1	0.00	MWD	
	7500.0	15.00	239.54	6598.1	-1593.5	-2709.1	3143.0	0.00	MWD	
	7553.7	15.00	239.54	6650.0	-1600.5	-2721.0	3156.9	0.00	5 1/2"	

Casing Points

MD ft	TVD ft	Diameter in	Hole Size in	Name
1506.1	1500.0	9.625	12.250	9 5/8"
7553.7	6650.0	5.500	8.750	5 1/2"

Formations

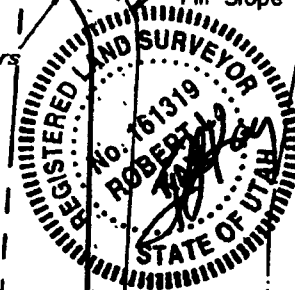
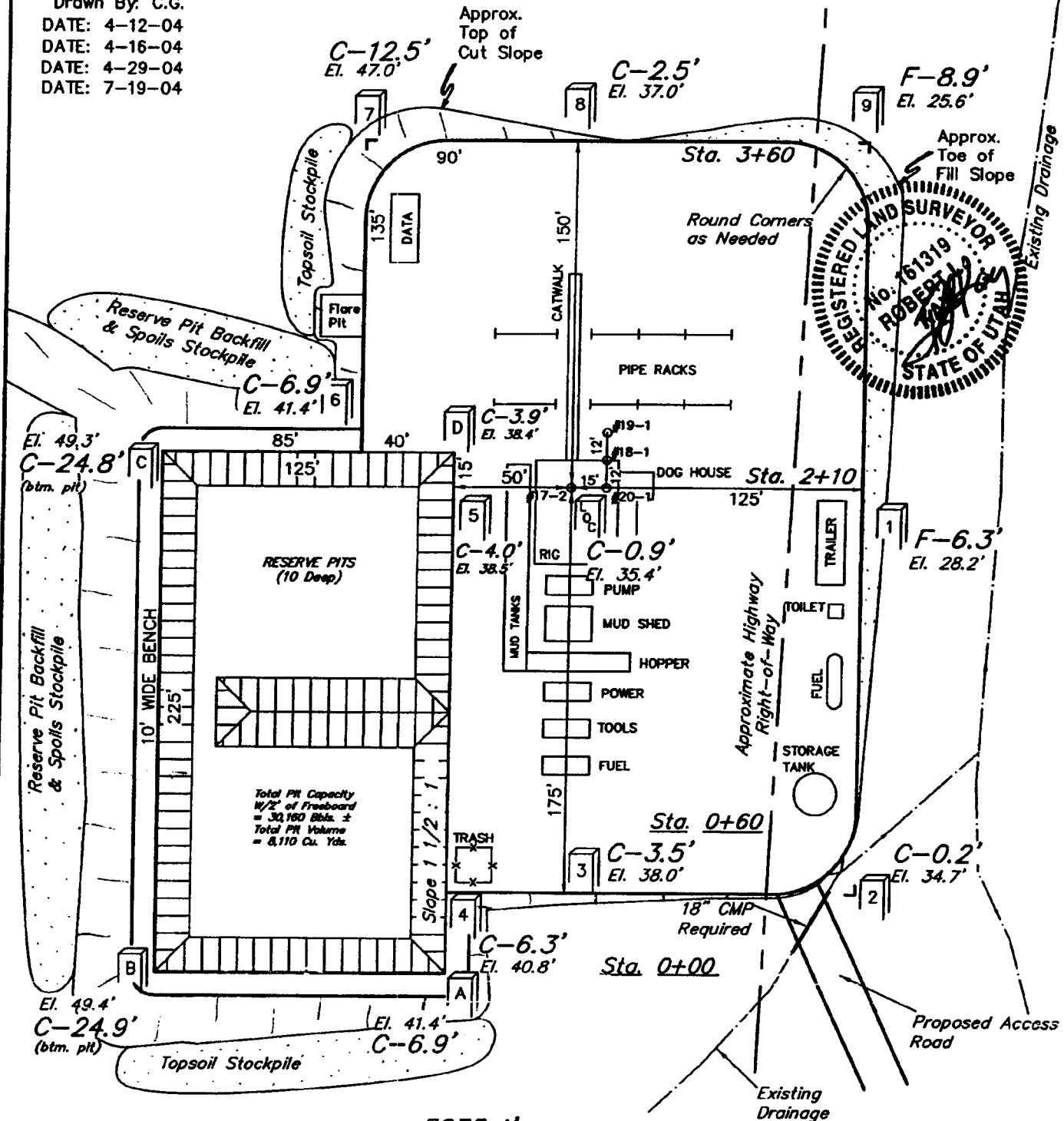
MD ft	TVD ft	Formations	Lithology	Dip Angle deg	Dip Direction deg
6602.2	5739.0	Twin Creek		0.00	0.00

WOLVERINE GAS & OIL CO. LOCATION LAYOUT FOR

FIGURE #1

WOLVERINE FEDERAL #19-1
SECTION 17, T23S, R1W, S.L.B.&M.
857' FSL 1919' FWL

SCALE: 1" = 60'
DATE: 3-10-04
Drawn By: C.G.
DATE: 4-12-04
DATE: 4-16-04
DATE: 4-29-04
DATE: 7-19-04



Elev. Ungraded Ground at Location Stake = 5835.4'
Elev. Graded Ground at Location Stake = 5834.5'

UINTAH ENGINEERING & LAND SURVEYING
85 So. 200 East • Vernal, Utah 84078 • (435) 789-7017

WOLVERINE GAS & OIL CORP.

TYPICAL CROSS SECTIONS FOR

WOLVERINE FEDERAL #19-1
SECTION 17, T23S, R1W, S.L.B.&M.

857' FSL 1919' FWL

FIGURE #2

1" = 40'

X-Section
Scale

1" = 100'

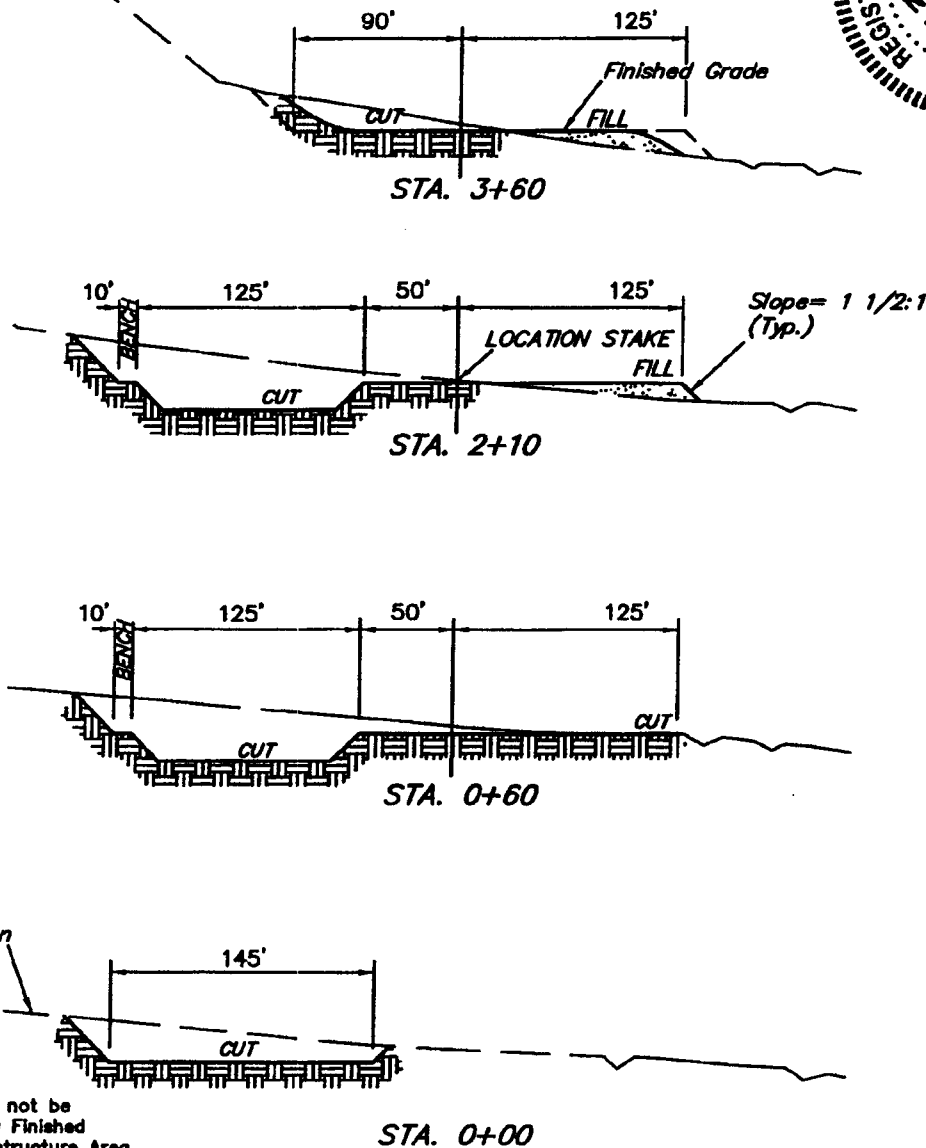
DATE: 3-10-04

Drawn By: C.G.

DATE: 4-12-04

DATE: 4-16-04

DATE: 7-19-04



NOTE:

Topsail should not be Stripped Below Finished Grade on Substructure Area.

* NOTE:
FILL QUANTITY INCLUDES
5% FOR COMPACTION

APPROXIMATE YARDAGES

CUT

(6") Topsail Stripping = 2,240 Cu. Yds.

Remaining Location = 25,900 Cu. Yds.

TOTAL CUT = 28,140 CU.YDS.

FILL = 4,980 CU.YDS.

EXCESS MATERIAL = 23,160 Cu. Yds.

Topsail & Pit Backfill = 6,300 Cu. Yds.
(1/2 Pit Vol.)

EXCESS UNBALANCE = 16,860 Cu. Yds.
(After Rehabilitation)

UINTAH ENGINEERING & LAND SURVEYING
85 So. 200 East • Vernal, Utah 84078 • (435) 789-1077



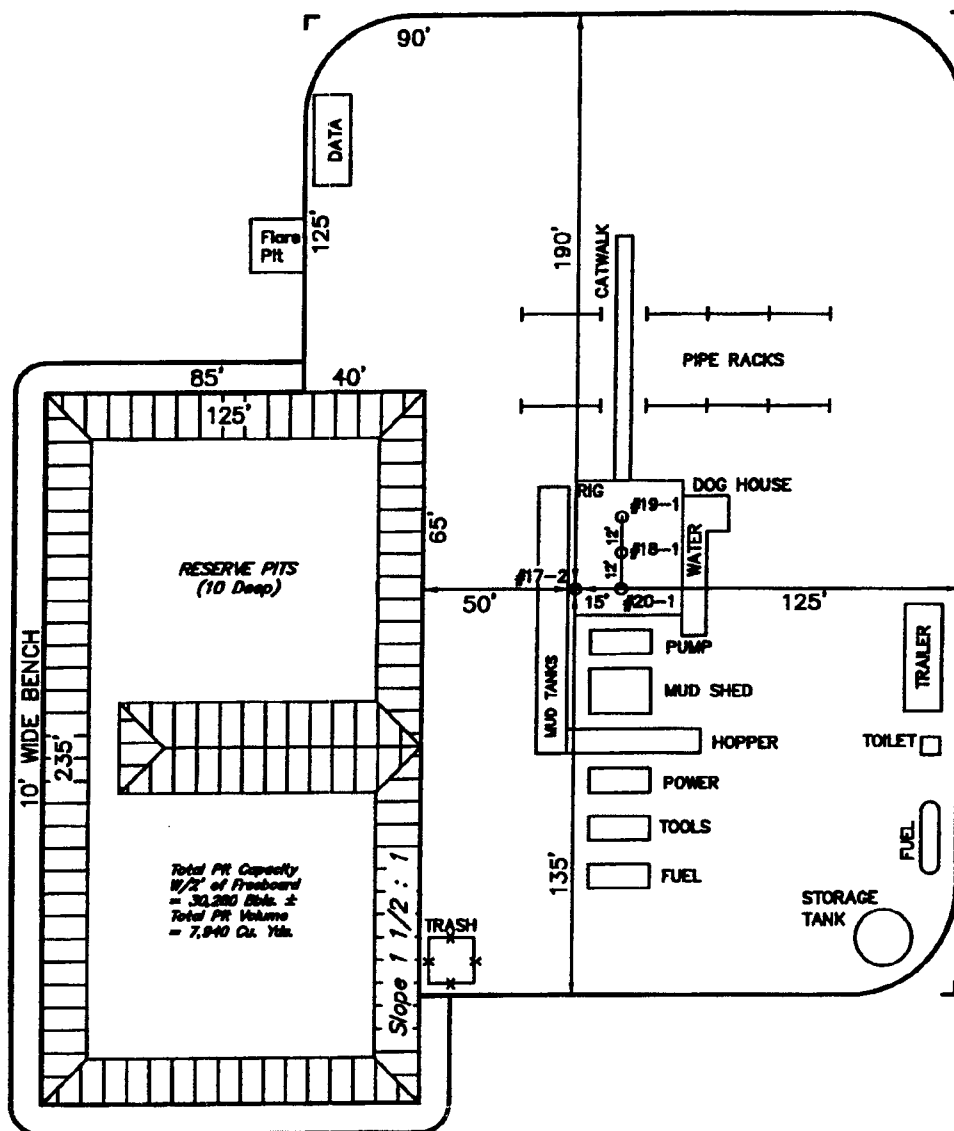
WOLVERINE GAS & OIL CORD.

TYPICAL RIG LAYOUT FOR

WOLVERINE FEDERAL #19-1
SECTION 17, T23S, R1W, S.L.B.&M.
857' FSL 1919' FWL

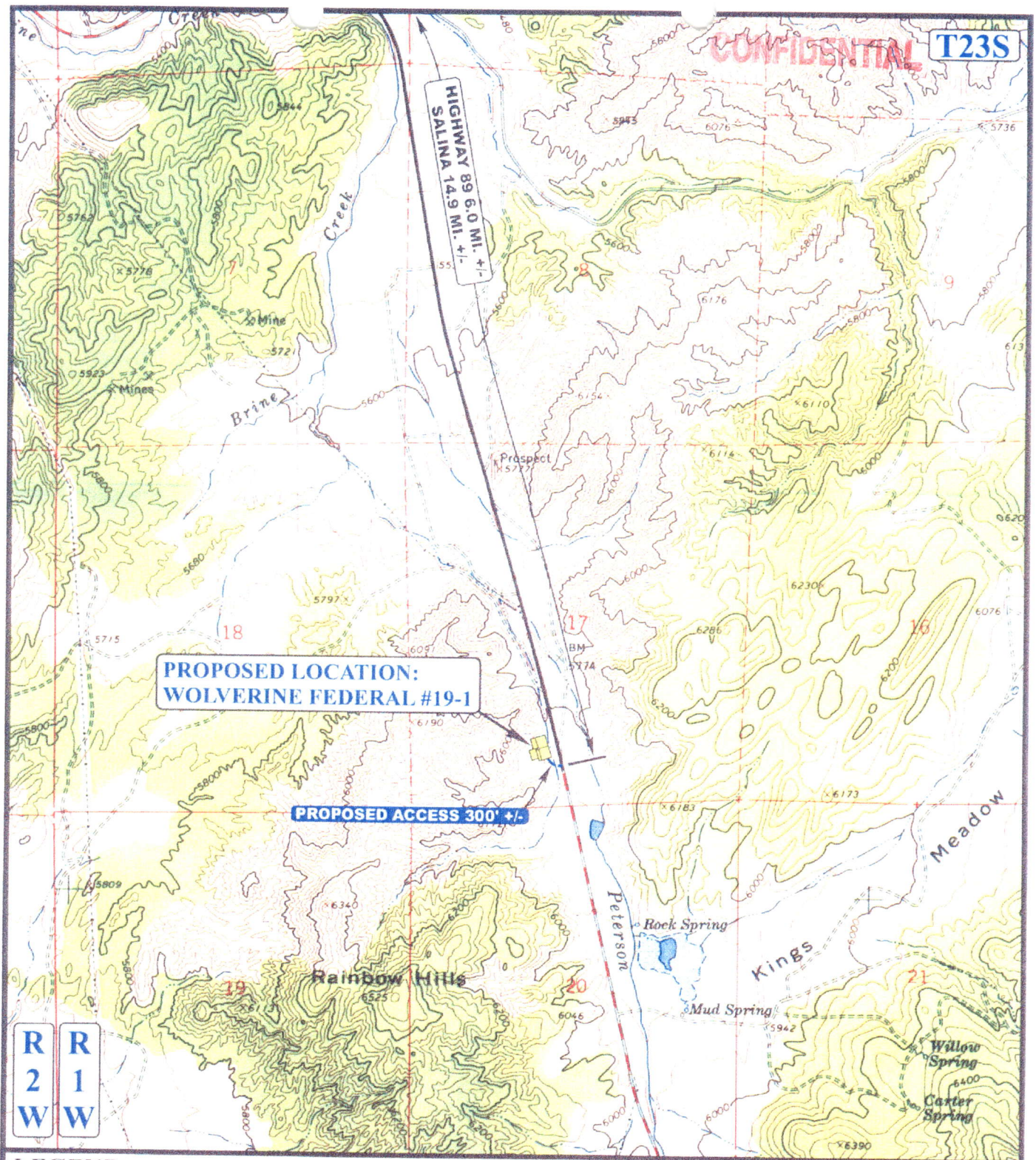


SCALE: 1" = 60'
DATE: 6-17-04
Drawn By: C.G.
DATE: 7-7-04



UINTAH ENGINEERING & LAND SURVEYING
85 So. 200 East • Vernal, Utah 84078 • (435) 789-1017





LEGEND:

— EXISTING ROAD
 - - - PROPOSED ACCESS ROAD



WOLVERINE GAS & OIL CORP.

WOLVERINE FEDERAL #19-1
SECTION 17, T23S, R1W, S.L.B.&M.
SE 1/4 SW 1/4



Uintah Engineering & Land Surveying
 85 South 200 East Vernal, Utah 84078
 (435) 789-1017 * FAX (435) 789-1813

TOPOGRAPHIC
MAP

07 15 04
 MONTH DAY YEAR

SCALE: 1" = 2000'

DRAWN BY: K.G.

REVISED: 00-00-00

B
TOPO

008

WORKSHEET
APPLICATION FOR PERMIT TO DRILL

APD RECEIVED: 08/05/2004

API NO. ASSIGNED: 43-041-30033

WELL NAME: WOLVERINE FED 19-1

OPERATOR: WOLVERINE GAS & OIL CO (N1655)

CONTACT: RICHARD MORITZ

PHONE NUMBER: 616-458-1150

PROPOSED LOCATION:

SESW 17 230S 010W

SURFACE: 0857 FSL 1919 FWL

NENE BOTTOM: 0660 FNL 0660 FEL Sec 19

SEVIER

WILDCAT (1)

LEASE TYPE: 1 - Federal

LEASE NUMBER: UTU-73528

SURFACE OWNER: 1 - Federal

PROPOSED FORMATION: NAVA

COALBED METHANE WELL? NO

INSPECT LOCATN BY: / /

Tech Review	Initials	Date
Engineering		
Geology		
Surface		

LATITUDE: 38.79736

LONGITUDE: 111.93383

RECEIVED AND/OR REVIEWED:

☒ Plat☒ Bond: Fed[1] Ind[] Sta[] Fee[]
(No. WY 3329)☒ Potash (Y/N)☒ Oil Shale 190-5 (B) or 190-3 or 190-13☒ Water Permit
(No. 63-2529)☒ RDCC Review (Y/N)
(Date:)☒ Fee Surf Agreement (Y/N)

LOCATION AND SITING:

R649-2-3.

Unit WOLVERINE

R649-3-2. General

Siting: 460 From Qtr/Qtr & 920' Between Wells

R649-3-3. Exception

Drilling Unit

Board Cause No: _____

Eff Date: _____

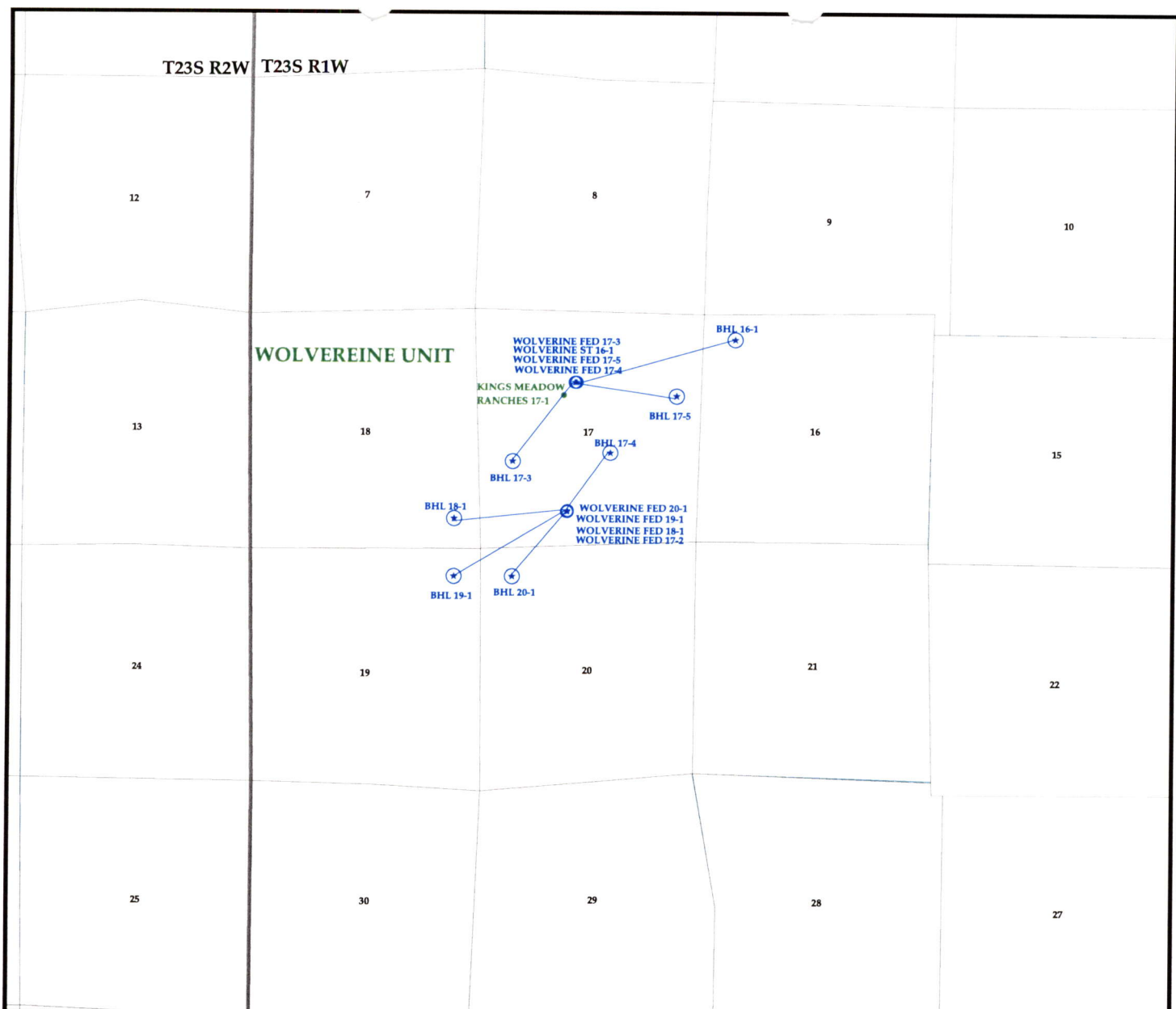
Siting: _____

☒ R649-3-11. Directional Drill

COMMENTS: _____

STIPULATIONS: _____

1- Federal Approval
2- Spacing Inp



OPERATOR: WOLVERINE G&O CO (N1655)

SEC. 17 T.23S R.1W

FIELD: WILDCAT (001)

COUNTY: SEVIER

SPACING: R649-3-11 / DIRECTIONAL DRILLING



Utah Oil Gas and Mining

- Wells**
- ✂ GAS INJECTION
 - ✱ GAS STORAGE
 - ✕ LOCATION ABANDONED
 - ⊕ NEW LOCATION
 - ◇ PLUGGED & ABANDONED
 - ✱ PRODUCING GAS
 - PRODUCING OIL
 - ✱ SHUT-IN GAS
 - ✱ SHUT-IN OIL
 - ✕ TEMP. ABANDONED
 - TEST WELL
 - △ WATER INJECTION
 - ◆ WATER SUPPLY
 - ✂ WATER DISPOSAL

- Units.shp**
- EXPLORATORY
 - GAS STORAGE
 - NF PP OIL
 - NF SECONDARY
 - PENDING
 - PI OIL
 - PP GAS
 - PP GEOTHERML
 - PP OIL
 - SECONDARY
 - TERMINATED

- Fields.shp**
- ABANDONED
 - ACTIVE
 - COMBINED
 - INACTIVE
 - PROPOSED
 - STORAGE
 - TERMINATED



PREPARED BY: DIANA WHITNEY
DATE: 12-AUG-2004



August 18, 2004

Utah Division of Oil, Gas & Mining
1594 W. N. Temple Suite 1210
Salt Lake City, Utah 84114-5801

RE: Wolverine Gas & Oil Company of Utah, LLC requests permission to drill the
Wolverine Federal #19-1

Gentlemen:

Pursuant to Rule R649-3-11 of the State's Oil & Gas Conservation regulations, Wolverine Gas & Oil Company of Utah, LLC, hereby makes application for approval to directionally drill an oil & gas well.

Wolverine Gas & Oil Company of Utah, LLC (Wolverine) proposes to drill the Wolverine Federal #19-1 well to a total depth of 7,550 feet and is an exception to Rule R649-3-3. Wolverine is the only leasehold operator within a 460 foot radius of the bore hole.

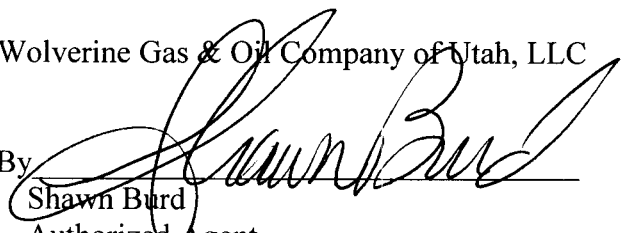
The mountainous terrain of the area is such that directional drilling is the most effective method to minimize surface disturbance. By locating the well pad on a relatively flat surface and drilling a directional well beneath this challenging topography, Wolverine can most effectively minimize surface disturbance and ensure proper utilization of resources.

Attached hereto is a plat as required by the Commissions rules and regulations.

If no objections are filed, the applicant requests that this application be approved. If objections are filed, applicant requests the matter be set for hearing and that it be advised of the hearing date.

Respectfully submitted,

Wolverine Gas & Oil Company of Utah, LLC

By 
Shawn Burd
Authorized Agent

RECEIVED
AUG 19 2004

DIV. OF OIL, GAS & MINING



United States Department of the Interior
BUREAU OF LAND MANAGEMENT
RICHFIELD FIELD OFFICE
150 East 900 North
Richfield, Utah 84701



In Reply Refer To:

3160
(UT-050)

August 10, 2004

Mr. Richard D. Moritz
Wolverine Gas and Oil Company of Utah, LLC
One Riverfront Plaza
55 Campau NW
Grand Rapids, Michigan 49503

Dear Mr. Moritz:

On July 22, 2004, four Applications for Permit to Drill and on July 28, 2004, three additional Applications for Permit to Drill were filed in this office. These seven wells are Wolverine #17-3, 17-4, 17-5, 16-1, 18-1, 19-1, and 20-1 and are on Federal lease UTU-73528. The well pad locations for these wells are in Section 17, T. 23 S., R. 1 W., SLM, Sevier County, Utah. Your applications have been reviewed for completeness in accordance with the provisions of the Federal regulations and the Onshore Oil and Gas Orders.

Based on Onshore Order 1, with the reference to the appropriate section, the following items are missing or need clarification in your applications:

Section III.G. 3, Form 3160-3 or as an attachment:

- c. Type of drilling tools (rotary or cable).
- d. Casing condition (new or used).

Section III.G. 4. a., Drilling Plan:

- (2) The anticipated contents of each geologic structure or stratum (water, oil, gas or other minerals).
- (3) Pressure control schematic.
- (4) As these are exploratory wells, the design factors for each casing string. (See Onshore Order #2, *Drilling Operations*, III. B. Casing and Cementing Requirements.)

Section III.G. 4. b., Surface Use Program:

- (3) Location of existing wells. For 17-3, 17-4, 17-5, and 16-1, the Location Map does not show the existing Well 17-2. For 18-1, 19-1, and 20-1, the Location Map does not show the existing well 17-1. Are any water wells within the one-mile parameter of the Order? At the proposed well site for 17-3, 17-4, 17-5, and 16-1, three well pads are shown. Two of the pads are assumed to be

the existing well pad (17-1) and the proposed pad (17-3 and others); however, the third pad is not identified.

- (4) Location of proposed production facilities.
- (5) Location of water supply. Be specific as to the source, if it is non-Federal.
- (9) Well site layout. Living facilities and the orientation of the rig and other facilities are not included on a layout.
- (11) Surface Ownership. The surface ownership of the well and access road shall be indicated. Where the surface of the well is privately owned, the operator shall include the name, address, and phone number, if known, of the surface owner. If privately owned, the existence of an agreement between the operator and owner needs to be provided.

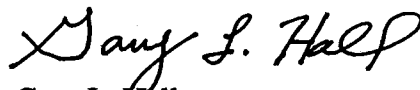
All the above items will be necessary before approval can be granted. All other portions of your application are in place, and we will continue to process your application up to the point the missing information prevents further action.

If future applications are filed, we request that Wolverine Gas and Oil adhere closely to Onshore Order No. 1, Section III. G. *Components of a Complete Application for Permit to Drill*. In the order, the Drilling Plan and the Surface Plan items are enumerated for ease of reference during both the preparation and the review of a proposal. All these items are required by regulation, and following the outline in the Order will facilitate the review of your applications. Although some items appear unnecessary or outdated, please provide the information. Unless specifically requested, additional information is unnecessary and may lengthen the review time frames.

In addition, the Application for Permit to Drill package does not need to be filed in a binder for the BLM. BLM records are kept in a file folder, so we remove the binder for ease of filing for our record keeping.

If you have any questions, please contact Michael Jackson at (435) 896-1522. Technical questions on the Drilling Plan may be directed to Al McKee at (801) 539-4045.

Sincerely,



Gary L. Hall
Assistant Field Manager

cc: Western Land Services, 54 West Seymour Street, Sheridan, Wyoming 82801

004

United States Department of the Interior

BUREAU OF LAND MANAGEMENT

Utah State Office
P.O. Box 45155
Salt Lake City, Utah 84145-0155

IN REPLY REFER TO:

3160
(UT-922)

August 16, 2004

Memorandum

To: Field Office Manger, Richfield Field Office

From: Michael Coulthard, Petroleum Engineer

Subject: 2004 Plan of Development Wolverine Unit Sevier County,
Utah.

Pursuant to email between Diana Whitney, Division of Oil, Gas and Mining, and Mickey Coulthard, Utah State Office, Bureau of Land Management, the following wells are planned for calendar year 2004 within the Wolverine Unit, Sevier County, Utah.

API #	WELL NAME	LOCATION
(Proposed PZ Navajo)		
43-041-30032	Wolverine Federal 20-1	Sec 17 T23S R01W 0833 FSL 1925 FWL
	BHL	Sec 20 T23S R01W 0660 FNL 0660 FWL
43-041-30033	Wolverine Federal 19-1	Sec 17 T23S R01W 0857 FSL 1919 FWL
	BHL	Sec 19 T23S R01W 0660 FNL 0660 FEL
43-041-30034	Wolverine Federal 18-1	Sec 17 T23S R01W 0845 FSL 1922 FWL
	BHL	Sec 18 T23S R01W 0660 FSL 0660 FEL
43-041-30035	Wolverine Federal 17-4	Sec 17 T23S R01W 1736 FNL 2298 FWL
	BHL	Sec 17 T23S R01W 1980 FSL 1980 FEL
43-041-30036	Wolverine Federal 17-3	Sec 17 T23S R01W 1736 FNL 2283 FWL
	BHL	Sec 17 T23S R01W 1980 FSL 0660 FWL
43-041-30037	Wolverine State 16-1	Sec 17 T23S R01W 1736 FNL 2253 FWL
	BHL	Sec 16 T23S R01W 0660 FNL 0660 FWL
43-041-30038	Wolverine Federal 17-5	Sec 17 T23S R01W 1736 FNL 2268 FWL
	BHL	Sec 17 T23S R01W 1980 FNL 0660 FEL

**WOLVERINE GAS AND OIL CORPORATION***Energy Exploration in Partnership with the Environment*

July 26, 2004

United States Department of the Interior
Bureau of Land Management
Richfield Field Office
150 East 900 North
Richfield, Utah 84701

RE: Designated Agent Contact Information: Wolverine Federal #19-1

To Whom It May Concern:

Wolverine Gas and Oil of Utah, LLC (Wolverine) is designating Western Land Services, Inc. as Agent for the above captioned well. Questions, deficiencies and clarifications regarding this APD package should be directed to the following contacts with Western Land Services, Inc.:

Shawn Burd
(310 South 100 East, Richfield, UT 84701)
Richfield Office: 435-896-1943
Cellular Phone: 435-979-4689
E-mail: shawn.burd@westernls.com

OR:

Don Anderson
(54 West Seymour, Sheridan, WY 82801)
Office: 307-673-1817
E-mail: don.anderson@westernls.com

Approvals or other notifications should be directed to me at Wolverine and to the Agent named above. My contact information is contained within the letterhead address below (extension 119) and my e-mail address is: rmoritz@wolvgas.com

Sincerely,

Wolverine Gas and Oil Company of Utah, LLC

Richard D. Moritz
Vice-President, Land & Legal



August 5, 2004

Utah Division of Oil, Gas & Mining
1594 W. N. Temple Suite 1210
Salt Lake City, Utah 84114-5801

RE: Wolverine Gas & Oil Company of Utah, LLC requests permission to drill the
Wolverine Federal #19-1 well as an exception to Rule R649-3-3

Gentlemen:

Pursuant to Rule R649-3-3 of the State's Oil & Gas Conservation regulations, Wolverine Gas & Oil Company of Utah, LLC, hereby makes application for approval to directionally drill an oil & gas well.

Wolverine Gas & Oil Company of Utah, LLC (Wolverine) proposes to drill the Wolverine Federal #19-1 well to a total depth of 7,550 feet. Wolverine is the only operator within a 460 foot radius.

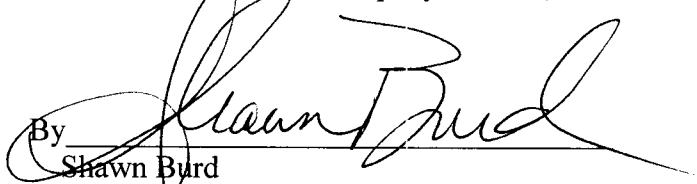
The mountainous terrain of the area is such that directional drilling is the most effective method to minimize surface disturbance. By locating the well pad on a relatively flat surface and drilling a directional well beneath this challenging topography, Wolverine can most effectively minimize surface disturbance and ensure proper utilization of resources.

Attached hereto is a plat as required by the Commissions rules and regulations.

If no objections are filed, the applicant requests that this application be approved. If objections are filed, applicant requests the matter be set for hearing and that it be advised of the hearing date.

Respectfully submitted,

Wolverine Gas & Oil Company of Utah, LLC

By 
Shawn Burd
Authorized Agent

WESTERN LAND SERVICES - UTAH

310 South 100 East • Richfield, UT 84701 • Phone: (435) 896-1943 • Fax: (435) 893-2134

Web: www.westernls.com

PROJECT PLAN OF DEVELOPMENT AND MASTER SURFACE USE PLAN

Wolverine FEDERAL #19-1

NAME OF APPLICANT: Wolverine Gas and Oil Company of Utah,
LLC
One Riverfront Plaza, 55 Campau NW
Grand Rapids, Michigan 49503-2616

PROJECT NAME: "Wolverine Federal #19-1"
NE/NE of Section 19
Township 23 South – Range 1 West

ATTACHMENTS: A.) Project Map/Survey
B.) Well Site Location Layout
C.) Cross Sections (Cut and Fill)
D.) Wildlife & Vegetative Species of
Concern Summary
E.) Cultural Resource Survey Report

I. DESCRIPTION OF PROJECT:

Wolverine Gas and Oil Company of Utah, LLC (Wolverine) proposes to drill and explore for hydrocarbons, using a directional drilling program, from the Navajo Formation at depths of approximately 4,810' – 7,036' and approximately 8,062' – 9,100' within the Wolverine Federal Exploration Unit situated in Sevier County, Utah:

TOWNSHIP 23 SOUTH, RANGE 1 WEST

Northeast Quarter of Northeast Quarter (NE/NE) of Section 19

Well Name & No. Target Elev. Location TD Footages

LEASE # UTU-73528					
Wolverine Federal #19-1	Navajo 1 and 2	5,835'	NENE Sec 19, T23S-R1W	7,550'	860' FSL; 1,916' FWL

The attached Project Map (Attachment A) indicates the proposed well site and its intended configuration. Additionally, the existing access route is indicated. This well is being drilled within the "Wolverine Federal Exploration Unit" and upon federally owned surface administered by the Bureau of Land Management, United States Department of the Interior.

Mineral rights within the Wolverine Federal Exploration Unit are owned by a variety of interests and are federally owned at the target bottom-hole location for this proposed well. The proposed surface plan will be reviewed and inspected by the appropriate regulatory agencies, state and federal, to ensure proper utilization of the surface reflecting an effort by Wolverine to minimize surface disturbance and waste. Appropriate Onshore Oil and Gas Orders and those of the Utah Division of Oil, Gas and Mining will be followed in the constructing, drilling, completion, operation, plugging and surface reclamation of this well.

The project is situated within an area that is referred to by the Utah Division of Oil, Gas and Mining (Statement of Basis, Kings Meadow Ranches 17-1, October 21, 2003) as "... placed in the High Plateaus section of the Colorado Plateau physiographic province in western central Utah. Some people have characterized this area as being in the Basin and Range – Colorado Plateau transition zone." The drill site itself is located in a flat area between steep hills and is contiguous to Highway 24 from which access to this site will be established. The flat area is dominated by sagebrush – grass communities and the nearby hillsides are dominated by Pinyon Pine – Juniper communities. The access route consists of an improved driveway off from Highway 24 entering onto the existing well site. BLM road construction standards will be adhered to as new improvements are constructed.

Wolverine's proposed "Wolverine Federal #19-1" project is most easily accessible from Sigurd, Utah. From Sigurd, one would drive down Highway 24 heading east/southeasterly. At mile marker 14, drive approximately 0.2 miles and turn westerly onto the access road heading onto the well site. Drive approximately 100 yards to the proposed well pad location.

Surface water is located in the area primarily in the form of the Sevier River, in the Peterson Creek drainage, a tributary of Brine Creek. Local springs arising from the volcanic rocks and ephemeral drainages also exist in the area including a drainage way

situated along Highway 24. The Sevier River is approximately three (3) miles west of this proposed location.

Geology and Soil Types

Again quoting from the "Division of Oil, Gas and Mining, Statement of Basis, Kings Meadow Ranches 17-1", the well "...will likely spud into a thin alluvium covering the evaporate-rich Jurassic age Arapien shale." "The Arapien Shale may have been somewhat intruded or elevated into the area between the Sevier Fault and the considerable parallel secondary faulting mapped in the Cedar Mountain – Black Mountain area..." It is anticipated that from surface to approximately 400 feet in depth, the lithology of the Quaternary will consist of unconsolidated sediments.

The soil type classified at the Wolverine Federal #19-1 wellsite is the Billings silty clay loam. This soil type is a fine-silty, mixed calcareous, mesic Typic Torrifluvents and is usually found in areas containing two (2) to five (5) percent slopes. The soil is a deep, drained, silty clay loam. It features a light gray, moderately alkaline, strongly calcareous, silty clay loam surface soil that is approximately ten (10) inches thick. The subsoils consist of a light gray, moderately alkaline, friable, silty clay loam approximately 32 inches thick. The substrate material is a light gray, moderately alkaline, friable, silty clay loam with a small amount of gypsum veining.

Assuming that the drilling and completion of this well results in its ability to commercially produce hydrocarbons, appropriate market connections will be made upon proper permitting of such activities by all agencies having jurisdiction over said activities.

II. SOIL EROSION CONTROL MEASURES:

The well pad was sloped at about 1%, in the direction of the site's drainage so as to provide for a well-drained work area during drilling operations. Appropriate collection and infiltration basins were constructed in the sloped area of the drill pad.

In all fill areas, the edges were diked to control run off.

Appropriate drill site drainage and sedimentation control measures were incorporated in the operational plan. These included utilization of earthen dikes along the fill portion of the drilling pad perimeter, stabilization of slopes as needed, location of the reserve pits in the cut portion of the drilling pad and the pad constructed so as to slope toward a collection and infiltration basin. Construction of the drill site was in accordance with the regulations and stipulations as defined by the State of Utah, Department of Natural Resources, Division of Water Rights.

Reclamation of the site was in accordance with Best Management Practices and requirements of the Bureau of Land Management.



State of Utah

Department of
Natural ResourcesROBERT L. MORGAN
*Executive Director*Division of
Oil, Gas & MiningLOWELL P. BRAXTON
*Division Director*OLENE S. WALKER
*Governor*GAYLE F. McKEACHNIE
Lieutenant Governor

August 19, 2004

Wolverine Gas & Oil Company of Utah, LLC
One Riverfront Plaza
Grand Rapids, MI 49503Re: Wolverine Federal 19-1 Well, Surface Location 857' FSL, 1919' FWL, SE SW,
Sec. 17, T. 23 South, R. 1 West, Bottom Location 660' FNL, 660' FEL,
NE NE, Sec. 19, T. 23 South, R. 1 West, Sevier County, Utah

Gentlemen:

Pursuant to the provisions and requirements of Utah Code Ann. § 40-6-1 *et seq.*, Utah Administrative Code R649-3-1 *et seq.*, and the attached Conditions of Approval, approval to drill the referenced well is granted.

This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date. The API identification number assigned to this well is 43-041-30033.

Sincerely,

for John R. Baza
Associate Director

pab
Enclosurescc: Sevier County Assessor
Bureau of Land Management, Moab District Office

Operator: Wolverine Gas & Oil Company of Utah, LLC
Well Name & Number Wolverine Federal 19-1
API Number: 43-041-30033
Lease: UTU-73528

Surface Location: SE SW **Sec.** 17 **T.** 23 South **R.** 1 West
Bottom Location: NE NE **Sec.** 19 **T.** 23 South **R.** 1 West

Conditions of Approval

1. General

Compliance with the requirements of Utah Admin. R. 649-1 *et seq.*, the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for permit to drill.

2. Notification Requirements

Notify the Division within 24 hours of spudding the well.

- Contact Carol Daniels at (801) 538-5284.

Notify the Division prior to commencing operations to plug and abandon the well.

- Contact Dan Jarvis at (801) 538-5338

3. Reporting Requirements

All required reports, forms and submittals will be promptly filed with the Division, including but not limited to the Entity Action Form (Form 6), Report of Water Encountered During Drilling (Form 7), Weekly Progress Reports for drilling and completion operations, and Sundry Notices and Reports on Wells requesting approval of change of plans or other operational actions.

4. State approval of this well does not supersede the required federal approval, which must be obtained prior to drilling.

5. This proposed well is located in an area for which drilling units (well spacing patterns) have not been established through an order of the Board of Oil, Gas and Mining (the "Board"). In order to avoid the possibility of waste or injury to correlative rights, the operator is requested, once the well has been drilled, completed, and has produced, to analyze geological and engineering data generated therefrom, as well as any similar data from surrounding areas if available. As soon as is practicable after completion of its analysis, and if the analysis suggests an area larger than the quarter-quarter section upon which the well is located is being drained, the operator is requested to seek an appropriate order from the Board establishing drilling and spacing units in conformance with such analysis by filing a Request for Agency Action with the Board.

6. In accordance with Utah Admin. R.649-3-11, Directional Drilling, the operator shall submit a complete angular deviation and directional survey report to the Division within 30 days following completion of the well.

010



WOLVERINE GAS AND OIL COMPANY
of Utah, LLC

Energy Exploration in Partnership with the Environment

January 28, 2005

T. 235, R. 1W, S. 17

State of Utah
Division of Oil, Gas & Mining
1594 West North Temple
Suite 1210
Salt Lake City, UT 84114-5801

Via Fax (801) 359-3940

Re: Approved APDs
Wolverine Federal 18-1, 19-1 & 20-1

To Whom It May Concern:

Wolverine Gas and Oil Corporation of Utah, as operator of the captioned wells (API Nos. 43-041-30032, 43-041-30033 and 43-041-30034), hereby requests copies of the approved Applications to Drill with any conditions for approval for said wells. Please fax them to my attention at (616) 458-0869.

If you have any questions or concerns, please feel free to contact me.

Very truly,

Sue A. Benson

RECEIVED

JAN 28 2005

DIV. OF OIL, GAS & MINING



WOLVERINE GAS AND OIL CORPORATION

WOLVERINE GAS AND OIL CORPORATION

One Riverfront Plaza, 55 Campau NW
Grand Rapids, Michigan 49503-2616Telephone: 616.458.1150
Fax: 616.458.0809

RECIPIENT:

Vicky Dyson
UDOGM

FROM:

Sue Benson

MATERIALS SENT:

Letter

DATE:

1-28-05

TIME:

9:45 AM

FAX NO.:

(801) 359-3940

NUMBER OF PAGES (including this cover sheet):

2

IF TRANSMISSION IS INCOMPLETE, PLEASE CALL

Sue

AT 616.458.1150.

COMMENTS, IF ANY:

CONFIDENTIALITY NOTICE

THIS FACSIMILE TRANSMISSION AND ANY ACCOMPANYING DOCUMENTS CONTAIN INFORMATION BELONGING TO THE SENDER WHICH MAY BE CONFIDENTIAL AND LEGALLY PRIVILEGED. THIS INFORMATION IS INTENDED ONLY FOR THE USE OF THE RECIPIENT TO WHOM THIS FACSIMILE TRANSMISSION WAS SENT AS INDICATED ABOVE. IF YOU ARE NOT THE INTENDED RECIPIENT, ANY DISCLOSURE, COPYING, DISTRIBUTION, OR ACTION TAKEN IN RELIANCE ON THE CONTENTS OF THE INFORMATION CONTAINED IN THIS FACSIMILE TRANSMISSION IS STRICTLY PROHIBITED. IF YOU HAVE RECEIVED THIS INFORMATION IN ERROR, PLEASE NOTIFY US IMMEDIATELY BY TELEPHONE AND RETURN THE ORIGINAL MESSAGE TO US VIA THE U.S. POSTAL SERVICE. WE WILL BE HAPPY TO REMIT THE POSTAGE COST BACK TO YOU.

RECEIVED

JAN 28 2005

DIV. OF OIL, GAS & MINING



WOLVERINE GAS AND OIL COMPANY
of Utah, LLC

Energy Exploration in Partnership with the Environment

June 20, 2005

Ms. Diana Whitney
State of Utah
Division of Oil, Gas & Mining
1594 W. N. Temple, Suite 1210
Salt Lake City, UT 84114

Re: Sundry Notice for Wolverine Federal #19-1

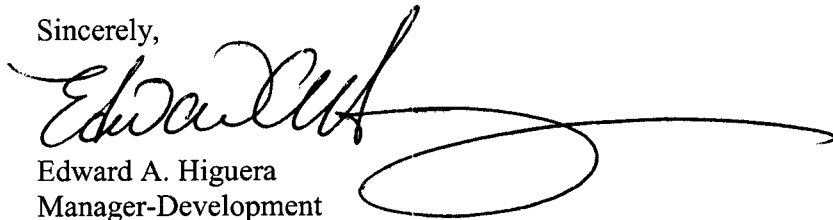
Dear Ms. Whitney:

Please accept this copy of the Sundry for Wolverine Federal #19-1. This Sundry covers the change in the surface location within the B-Pad drilling pad, revised bottomhole location reflecting the most recent information on the structure, and revised drilling prognosis with new directional survey calculations.

A request for exception of spacing and directional drilling (Rule 649-3-3 and Rule 649-3-11, respectively) is hereby requested. Wolverine is the only owner and operator within 460 feet of the proposed well and all points along the intended well bore path. The enclosed diagrams show the location of the proposed bottomhole location relative to the 200' x 200' target window. The directional drilling is required because the well is drilled from a well pad because of topography.

If you have any questions, please call me.

Sincerely,


Edward A. Higuera
Manager-Development

RECEIVED

JUN 21 2005

DIV. OF OIL, GAS & MINING

CONFIDENTIAL

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

FORM 9

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

1. TYPE OF WELL OIL WELL <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER <input type="checkbox"/>		5. LEASE DESIGNATION AND SERIAL NUMBER: UTU-73528
2. NAME OF OPERATOR: Wolverine Gas and Oil Company of Utah, LLC		6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
3. ADDRESS OF OPERATOR: 55 Campau NW CITY Grand Rapids STATE MI ZIP 495063		7. UNIT or CA AGREEMENT NAME: Wolverine Fed Exploration Unit
4. LOCATION OF WELL FOOTAGES AT SURFACE: 857' FSL & 1,919' FWL		8. WELL NAME and NUMBER: Wolverine Federal #19-1
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: SESW 17 23S 1W		9. API NUMBER: 4304130033
COUNTY: Sevier		10. FIELD AND POOL, OR WILDCAT: Covenant Field
STATE: UTAH		

CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
<input checked="" type="checkbox"/> NOTICE OF INTENT (Submit in Duplicate) Approximate date work will start: _____	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> REPERFORATE CURRENT FORMATION
	<input checked="" type="checkbox"/> ALTER CASING	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> SIDETRACK TO REPAIR WELL
	<input type="checkbox"/> CASING REPAIR	<input type="checkbox"/> NEW CONSTRUCTION	<input type="checkbox"/> TEMPORARILY ABANDON
	<input checked="" type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> TUBING REPAIR
	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> VENT OR FLARE
<input type="checkbox"/> SUBSEQUENT REPORT (Submit Original Form Only) Date of work completion: _____	<input type="checkbox"/> CHANGE WELL NAME	<input type="checkbox"/> PLUG BACK	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> PRODUCTION (START/RESUME)	<input type="checkbox"/> WATER SHUT-OFF
	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> OTHER: _____
	<input type="checkbox"/> CONVERT WELL TYPE	<input type="checkbox"/> RECOMPLETE - DIFFERENT FORMATION	

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

Wolverine proposes the following changes to be consistent with current casing program used for the field, and reflect changes in the preferred bottom hole location based on the most recent data obtained from the current drilling program.

Surface hole location - from: 857' FSL & 1,919' FWL, SE/SW, Section 17 T23S, R1W
to: 798' FSL & 1,937' FWL, SW/SW, Section 17, T23S, R1W
Bottom hole location - from: 660' FNL & 660' FEL, NE/NE, Section 19, T23S, R1W
to: 1,216 FNL & 940 FEL, NE/NE, Section 19, T23S, R1W

Alter casing - from: 9 5/8" at 1,510' 5 1/2" at 7,550'
to: 13 3/8" at 2,700' +/- 9 5/8" at 6,600' +/- 7" at 7750' +/-

Revised drilling & direction plan is attached.

Surf
4179000Y
4179000Y
38.797417
111.943787

TITLE Manager-Development

NAME (PLEASE PRINT) Edward A. Higuera

DATE 6/20/2005

SIGNATURE

(This space for State use only)

Approved by the
Utah Division of
Oil, Gas and Mining

Date: 06-22-05

By: [Signature]

RECEIVED

JUN 21 2005

DIV. OF OIL, GAS & MINING

Federal Approval of this
Action is Necessary

Section 17, T.23 S., R.1 W., S.L.B. & M.

PROJECT

Wolverine Gas & Oil Company of Utah, LLC.

WELL LOCATION, LOCATED AS SHOWN IN THE SE 1/4 OF THE
SW 1/4 OF SECTION 17, T.23 S., R.1 W., S.L.B. & M.
SEVIER COUNTY, UTAH

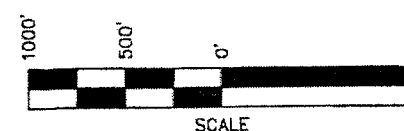
LEGEND

- ⊕ = SECTION CORNERS LOCATED
- ⊖ = QUARTER SECTION CORNERS LOCATED
- ⊙ = PROPOSED WELL HEAD

NOTE: THE PURPOSE OF THIS SURVEY WAS TO PLAT
THE WOLVERINE FEDERAL #19-1 LOCATION.
LOCATED IN THE SE 1/4 OF THE SW 1/4
OF SECTION 17, T.23 S., R.1 W., S.L.B. & M.
SEVIER COUNTY.

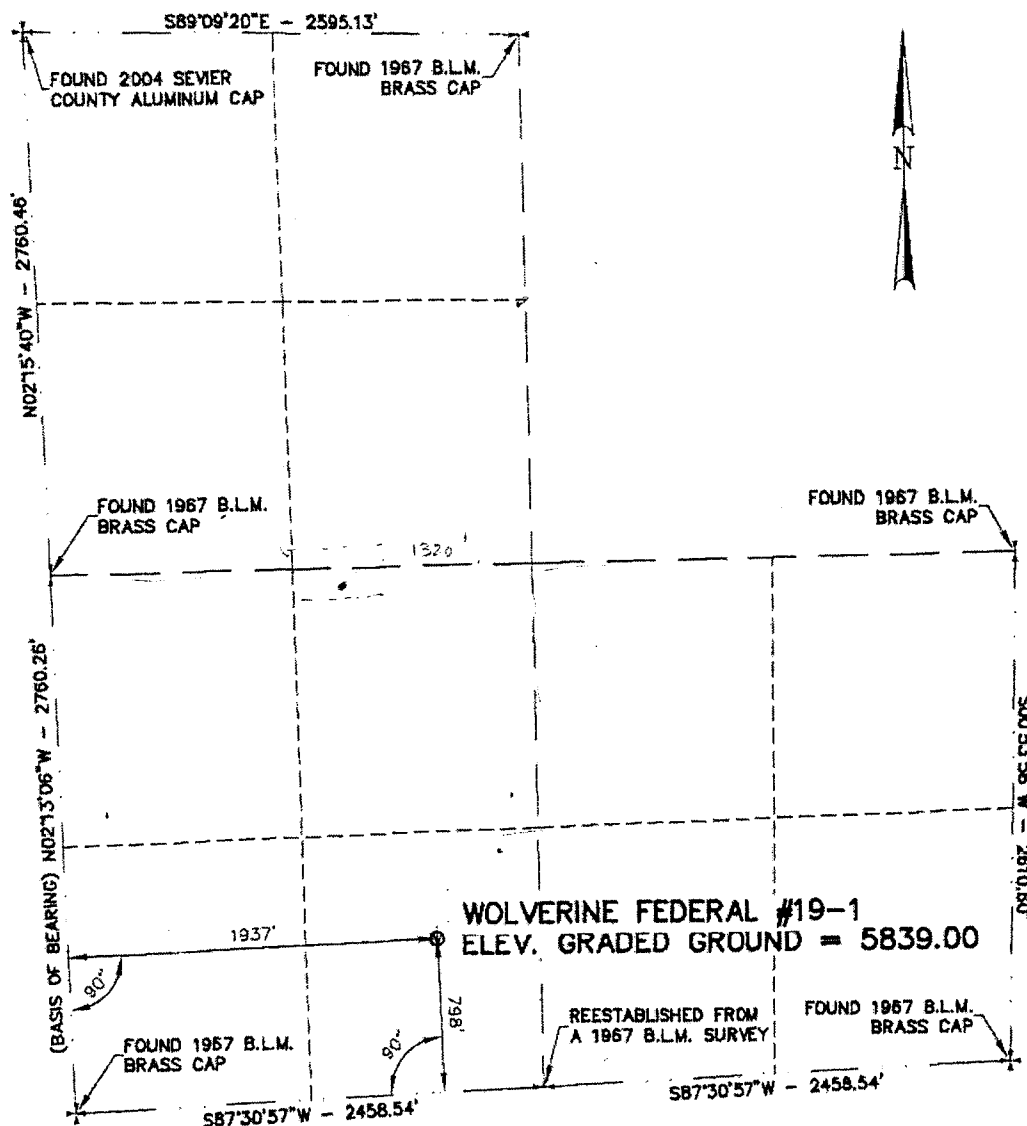
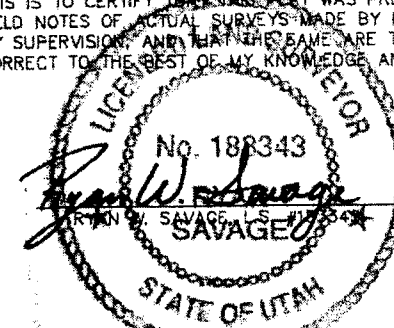
BASIS OF ELEVATION

ELEVATION BASED ON U.S.G.S. BENCH MARK LOCATED IN
THE SW 1/4 OF SECTION 17, T.23 S., R.1 W., S.L.B. & M.



CERTIFICATE

THIS IS TO CERTIFY THAT THIS PLAT WAS PREPARED FROM
FIELD NOTES OF ACTUAL SURVEYS MADE BY ME OR UNDER
MY SUPERVISION AND THAT THE SAME ARE TRUE AND
CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.



BASIS OF BEARINGS

BASIS OF BEARING USED WAS N02°13'06"W BETWEEN THE SOUTHWEST CORNER
AND THE WEST QUARTER CORNER OF SECTION 17, T.23 S., R.1 W., S.L.B. & M.

LATITUDE = 38°47'50.7946" (38.797442944)
LONGITUDE = -111°56'04.9328" (111.934703556)



Jones & DeMille Engineering
1535 South 100 West - Richfield, Utah 84701
Phone (435) 896-8266
Fax (435) 896-8268
www.jonesanddemille.com

Well Location Plat for

Wolverine Gas & Oil Company of Utah, LLC.

DESIGNED	SURVEYED	CHECKED	DRAWN	PROJECT NO.	SHEET NO.
	T.W.G.	R.W.S.	K.B.B.		
DATE		DWG. NAME	SCALE		
May 2005		B_Wells	1" = 1000'	0505-053	1

Section 18

Section 17

Scale: 1" = 1000'



EAST QUARTER CORNER SECTION 18,
T.23 S., R.1 W., S.L.B. & M.
FOUND 1967 B.L.M. BRASS CAP

SHL
Wolverine Federal #19-1
1937 FWL/798 FSL S17

NORTHEAST CORNER SECTION 19,
FOUND 1967 B.L.M. BRASS CAP
T.23 S., R.1 W., S.L.B. & M.

NORTHWEST CORNER SECTION 19,
T.23 S., R.1 W., S.L.B. & M.
FOUND 1967 B.L.M. BRASS CAP

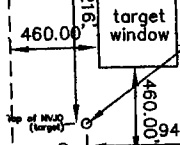
NORTH QUARTER CORNER SECTION 19,
T.23 S., R.1 W., S.L.B. & M.
FOUND 1967 B.L.M. BRASS CAP

S89°08'10"W 2655.67'

North Line Sec. 19

1262.31' 1328.33'

NORTHEAST CORNER SECTION 24,
T.23 S., R.2 W., S.L.B. & M.
FOUND 1967 B.L.M. BRASS CAP



East Line Sec. 19
N00°50'33"W 2791.59'

B.L.M.

B.L.M.

Section 20

EAST QUARTER CORNER SECTION 24,
T.23 S., R.2 W., S.L.B. & M.
FOUND 1967 B.L.M. BRASS CAP

S89°44'16"E 1297.70' S89°44'16"E 1329.87'

WEST QUARTER CORNER SECTION 19,
T.23 S., R.1 W., S.L.B. & M.
FOUND 1967 B.L.M. BRASS CAP

EAST QUARTER CORNER SECTION 19,
T.23 S., R.1 W., S.L.B. & M.
FOUND 1967 B.L.M. BRASS CAP

S89°44'16"E 2646.56'

Section 19

S01°02'36"E 2739.59'

S01°02'36"E 2739.59'

B.L.M.

B.L.M.

WOLVERINE Fed #19-1

Scale: 1" = 500'

500ft.

0

1000ft



NORTH QUARTER CORNER SECTION 19,
T.23 S., R.1 W., S.L.B. & M.
FOUND 1967 B.L.M. BRASS CAP

NORTHEAST CORNER SECTION 19,
FOUND 1967 B.L.M. BRASS CAP
T.23 S., R.1 W., S.L.B.

SECTION 19,
T.23 S., R.1 W., S.L.B. & M.
FOUND 1967 B.L.M. BRASS CAP

SECTION 24,
T.23 S., R.1 W., S.L.B. & M.
FOUND 1967 B.L.M. BRASS CAP

S89°08'10"W 2655.67'

North Line Sec. 19

1327.84'

1328.33'

460.00'

1216'

target window

460.00'

460.00'

Top of NVJO (target)

BHL

460.00'

10940'

1327.84'

S01°02'36"E 2739.59'

B.L.M.

East Line Sec. 19
N00°50'33"W 2791.59'

SECTION 24,
T.23 S., R.1 W., S.L.B. & M.
FOUND 1967 B.L.M. BRASS CAP

S89°44'16"E
1329.87'

Section 19

S89°44'16"E 2646.56'

EAST QUARTER CORNER SECTION 19,
T.23 S., R.1 W., S.L.B. & M.

Wolverine Federal
19-1

WOLVERINE GAS AND OIL COMPANY OF UTAH, LLC

DRILLING PROGNOSIS

Wolverine Federal # 19-1
SE SW SEC 17-T23S-R1W
SEVIER CO., UTAH

BRIEF DRILLING PLAN

Due to surface topography constraints, directionally drill a 7750' MD (6650' TVD) test of the Navajo 1 formation on a day work contract basis from Wolverine's present work area known as Drill Pad B-1 (c) located in SE SW of Sec 17 T23S – R01W, Sevier Co, UT. Please refer to the directional drilling plan attached for detailed hole angle, trajectory and target information. Deviation is the primary drilling concern in this area. No abnormal pressure or hydrogen sulfide gas is expected, however, an H2S detector will be utilized. The projected surface and bottomhole locations are to be as follows:

Surface Location: 798' fsl & 1937' fwl of Sec 17 T23S – R01W
BHL @ top of NVJO1 (5931' TVD) 1216' fnl & 940' fel of Sec 19 T23S – R01W

20" conductor casing will be cemented to surface at approximately 120 ft BGL. 13-3/8" surface csg will be set & cemented to surface in a 17-1/2" hole deviated to approximately 35 deg at +/- 2700' MD (+/- 2396' TVD). A 12-1/4" hole will then be drilled to +/- 6730' MD (5700' TVD) maintaining an approximate 35 deg tangent section to 6730'. 9-5/8" protective casing will be set from surface to 12-1/4" TD of 6730' & cemented over the lower 1000'. An 8-1/2" hole will then be drilled at approximately 10 deg to +/- 7750' (6650' TVD). 7" production casing will be run from TD back to surface & cemented to approximately 800' into the 9-5/8" protective casing.

EMERGENCY NUMBERS

Sevier Valley Medical Center	(435)-896-8271
Medical Helicopter	(800)-453-0120
Sheriff Department	(435)-896-2600
Fire Department-Richfield, UT	(435)-896-5479
Bureau of Land Management (Richfield):	(435)-896-1500
Bureau of Land Management (Salt Lake City)	(801) 539-4045
Utah Division of Oil, Gas and Mining (Salt Lake City):	(801)-538-5340

United States Bureau of Land Management

Contact Al McKee (801) 539-4045 24 hrs prior to spudding

Utah Division of Oil, Gas and Mining

Contact Carol Daniels (801) 538-5284, 24 hrs prior to spudding

GENERAL INFORMATION

OBJECTIVE: Navajo 1 @ 5931' (TVD) **ELEVATION:** 5839' GL (est) 5856' KB

PROJECTED TOTAL DEPTH: 7750' MD; 6650' TVD

SURFACE LOCATION: 798' FSL & 1937' FWL
Section 17-23S-1W

COUNTY: Sevier **STATE:** Utah

DIRECTIONS TO LOCATION: From the town of Sigurd, Utah go south
approximately 4 miles on Hwy #24 to location on
the right side of the road.

PROPOSED CASING PROGRAM:

Hole Size	Casing Size	Wt./Ft.	Grade	Joint	Measured Depth Set
30"	20"	.25 wall	X42	PE welded	120'
17-1/2"	13-3/8"	61#	J-55	STC	0'-2700'
12-1/4"	9-5/8"	* 47#	N-80	LTC	0'-6730'
8-1/2"	7"	** 26#	N-80	LTC	0' -7750'

* due to availability 47# HCP-110 may be substituted for N80

** due to availability 23# HCP-110 may be substituted for 26# N80

Hole Size	Casing Size	Drift ID, in.	OD of Couplings	Annular Volume in OH, cf/ft	Annular Volume in Csg, cf/ft	Capacity of casing, cf/ft
30"	20"	Conductor	Na			
17-1/2"	13-3/8"	12.259	14.375	.6946	1.0982	.8406
12 1/4"	9-5/8"	8.525	10.625	0.3127	0.4659	0.4340
8-1/2"	7"	6.250	7.656	.1268	.1438	.2148

GEOLOGIC FORMATIONS:

Formation	Interval (TVD)	Interval (MD)	Lithology	Prod	Abnormal Psi
Arapien	Surf – 5563'	Surf – 6560'	sh, siltstone, salt, evaporites		
TwinCreek1	5563' - 5931'	6560' - 7000'	Carbonates	X	
Navajo 1	5931' - 6650'	7000' - 7750'	Sandstone w/ minor shale	X	
Total Depth	6650'	7750'			

CONSTRUCTION OF SURFACE LOCATION

360'x 180' Pad
150'x 100' x 10' Reserve Pit with a 12 mil synthetic liner
96" diameter tin horn cellar, 10' deep.
Flare pit a minimum of 100' from wellhead.

SURFACE HOLE: 120' to 2700'

Directionally drill a 17-1/2" hole with a PDC bit, mud motor & MWD equipment to approximately 2700' using salt mud system from prior well (make hole to fit 13-3/8" casing). Loss circulation could be a problem in this interval and, if such occurs, begin pumping LCM sweeps. If loss circulation cannot be healed with ± 25 ppb LCM, consider dry drilling (no returns). Maintain hole angle and direction in keeping with the attached directional plan.

PRESSURE CONTROL & SAFETY EQUIPMENT FOR SURFACE HOLE

Bottom to Top

20" casing with one 7-1/16" flanged outlet with 7-1/16" HCR valve and 6" blooie line to flare pit
20" drilling nipple with fillup line and 10-3/4" flow line w/ flowline valve
20" rotating head
Upper kelly cock valves with handles available
Safety valves and subs to fit all drill string connections in use
Inside BOP or float sub available

MUD PROGRAM FOR SURFACE HOLE

DEPTH	MUD WEIGHT	TYPE	VISC	FLUID LOSS
120 -2700'	9.6 – 10.2	Salt mud	40-55	N/C

Note: Sweep hole every 100 – 200 feet or as needed for hole cleaning. Maintain maximum flowrates for hole cleaning. Use salt gel and seamud to maintain properties.

CASING PROGRAM FOR SURFACE HOLE

<u>DEPTH</u>	<u>SIZE</u>	<u>LENGTH</u>	<u>WT</u>	<u>GRADE</u>	<u>THREAD</u>	<u>REMARKS</u>
120 - 2700'	13-3/8"	2700'	61#	J-55	ST&C	

Casing Running Sequence:

guide shoe, 1 jt of 13-3/8" 61# J55 ST&C, Float collar, balance of 13-3/8" 61# J55 ST&C, 10 centralizers as reqd. RU cement co., hold safety meeting, test lines, cement 13-3/8" casing per cement company recommendation and the cementing guide below. Displace with fresh water or mud.

CEMENTING PROGRAM FOR SURFACE HOLE

Lead:

800 sx hi-fill

Mixed at: 11.0 ppg
Yield: 3.86 ft³/sx

Tail: 470 sx Premium G

Mixed at: 15.8 ppg
Yield: 1.18 ft³/sx

MUST CIRCULATE CEMENT TO SURFACE If the cement does **not** circulate to surface contact the BLM and UDOGM office for further instructions and remedial actions. Top out with premium cement regardless of circulation.

WOC A TOTAL OF 24 HOURS:

Wait 4 hours with the hydrostatic pressure of the displacement fluid in place, then cut off conductor and weld on a 13-5/8" 5M x 13-3/8" SOW casing head w/ MBS spool configured to hang both 9-5/8" and 7" csg strings without nipping down BOPE. NU a 13-5/8" 5M double ram BOP w/ 5M annular and 5M choke manifold rigged to mud/gas separator, mud tanks and flare pit.

PROTECTIVE CASING HOLE: 2700' to 6730'

Trip in the hole with a 12-1/4" bit, mud motor, MWD & BHA. Drill float, shoe and 20' of new hole. Perform a formation integrity test to 10.5 ppg mud weight equivalent. Directionally drill a 12-1/4" hole with a PDC and/or a TCI rock bit, mud motor, MWD & BHA to approximately 6730' MD using same salt mud system as above. Loss circulation, moving salt, gypsum and anhydrite stringers may be a problem in this interval. Maintain hole angle and azimuth in keeping with the attached directional plan. Protective casing should be set into the top of the Twin Creek formation approximately 100-150'.

PRESSURE CONTROL AND SAFETY EQUIPMENT FOR PROTECTIVE CASING STRING

Bottom to Top (see attached 5M BOP diagram)

- 13-5/8" 5M x 13-3/8" SOW casing head w/ (2) 2-1/16" SSO's (for 9-5/8")
- 13-5/8" 5M x 13-5/8" 5M multi-bowl casing spool (for 7")
- 13-5/8" 5M x 13-5/8" spacer spool
- 13-5/8" 5M x 13-5/8" 5M mud cross with (2) side outlets:
 - one outlet 2-1/16" 5M kill line
 - one outlet 3-1/16" 5M choke line
- 13-5/8" 5M double ram BOP w/ 5" pipe rams top & CSO rams btm
- 13-5/8" 5M Annular Preventer
- 13-5/8" 5M rotating head
 - Connect BOP to choke manifold with pressure guage
 - Upper kelly cock valves with handles available
 - Safety valves and subs to fit all drill string connections in use
 - Inside BOP or float sub available

Testing Procedure:

Annular Preventer

The annular preventer will be pressure tested to 1500 psi for a period of ten minutes or until provisions of the test are met, whichever is longer. At a minimum, the pressure test will be performed:

- 1) When the annular is initially installed
- 2) Whenever any seal subject to test pressure is broken
- 3) Following related repairs and at 30 day intervals

The annular preventer will be functionally operated once per week.

Blowout Preventer

The BOP, choke manifold and related equipment will be pressure tested to 4500 psi, or 70% of the internal yield of the casing. Pressure will be maintained for a period of at least ten minutes or until the requirements of the test are met, whichever is longer. At a minimum the pressure test will be performed:

- 1) When the BOP is initially installed
- 2) Whenever any seal subject to test pressure is broken
- 3) Following related repairs and at 30 day intervals

The pipe and blind rams will be activated each trip, but not more than once each day. All BOP drills will be recorded in the IADC driller's log.

Accumulator:

The accumulator will have sufficient capacity to open the hydraulically controlled gate valve (if so equipped), close all rams plus the annular preventer, and retain a minimum of 200 psig above pre-charge on the closing manifold without the use of the closing unit pumps. The reservoir capacity will be double the accumulator capacity, and the fluid level will be maintained at the manufacturer's recommendations. The accumulator shall have two (2) independent power sources to close the preventers. Nitrogen bottles may be one of

the independent power sources and, if so, shall maintain a charge equal to the manufacturer's specifications.

The accumulator pre-charge pressure test will be conducted prior to connecting the closing unit to the BOP stack and at least once every six months thereafter. The accumulator pressure will be corrected if the measured pre-charge pressure is found to be above or below the maximum or minimum limits specified in Onshore Oil & Gas Order Number 2 (only nitrogen gas may be used to pre-charge).

Choke Manifold Equipment, Valves and Remote Controls

All choke lines will be straight lines unless turns use tee blocks or are targeted with running tees, and will be anchored to prevent whip and vibration

A valve will be installed in the closing line as close as possible to the annular preventer to act as a locking device. This valve will be maintained in the open position and will be closed only when the power source for the accumulator is inoperative.

Remote controls shall be readily accessible to the driller. Remote controls will be capable of both opening and closing all preventers. Master controls will be at the accumulator and will be capable of opening and closing all preventers and the choke line valve (if so equipped).

The choke manifold and BOP extension rods with hand wheels will be located outside the rig sub structure. The hydraulic BOP closing unit will be located at least twenty-five feet from the well head but readily accessible to the driller.

A flare line will be installed after the choke manifold, extending 100 feet from the center of the drill hole to a separate flare pit.

MUD PROGRAM FOR PROTECTIVE CASING HOLE

DEPTH	MUD WEIGHT	TYPE	VISC	FLUID LOSS
2700' – 6730'	9.8 – 10.5	Salt Mud	36 - 50	NC

Maintain a salt mud system as salt and gypsum sections are drilled. If loss circulation becomes a problem use LCM sweeps to control seepage & clean hole.

CASING PROGRAM FOR PROTECTIVE CASING HOLE

DEPTH	SIZE	LENGTH	WT	GRADE	THREAD	REMARKS
0' – TD'	9-5/8"	6730'	* 47#	N-80	LT&C	

Rig up casing tools and run 9-5/8" protective casing as follows:

Float shoe, 2 joint of 9-5/8" * 47.0# N-80 LT&C casing, float collar, 6 centralizers, middle shoe joint and one every other joint for 12 jts, run balance of 9-5/8" 47# N-80

* due to availability 47# HCP-110 may be substituted

CEMENT PROGRAM FOR PROTECTIVE CASING

350 sx 50:50 POZ

Weight: 13.0 ppg

Yield: 1.71 ft³/sx

TOC at ~ 5700'; Calculate cement volume based on gauge hole plus 30% excess.

Displace with mud. Land 9-5/8" csg with casing mandrel. Lay down landing joint.

Clean pits and prepare for next hole section.

PRODUCTION HOLE: 6730' to 7750'

Trip in the hole with an 8-1/2" insert bit, mud motor & MWD. Drill float, shoe and 20' of new hole.

PRESSURE CONTROL AND SAFETY EQUIPMENT FOR PRODUCTION CASING STRING

Same as Protective String above due to utilization of Multi-Bowl Casing Head Assembly – Land 9-5/8" through BOPE with casing mandrel, release, test & proceed to drilling production hole section – Nipple down & nipple up NOT required – all BOPE remains intact – normal periodic pressure testing remains on schedule

MUD PROGRAM FOR PRODUCTION HOLE

DEPTH	MUD WEIGHT	TYPE	VISC	pH	FLUID LOSS
6730' - 7750'	8.3 – 9.0	LC Polymer	34-50	9.0-10.0	10cc or Less

EVALUATION PROGRAM FOR PRODUCTION HOLE

At TD, circulate and condition hole clean for logs. Short trip to the intermediate casing monitoring well closely. TOH for logs. Run Induction tool as run #1 to determine hole conditions for logging. Adjust tool configurations depending on hole condition.

Mudlogger: From 2000' to total depth.

Electric Logs:

Tool	PCP to TD
SDL/DSN/GR (DSN PCP to surface casing)	Yes
HRI/GR/SP (DLL/MSFL/SP/GR available if brine system)	Yes
EMI	Yes
NMR	Yes

DST: none planned

Cores: none planned

CASING PROGRAM FOR PRODUCTION HOLE

DEPTH	SIZE	LENGTH	WT	GRADE	THREAD	REMARKS
0' – TD'	7"	7750'	* 26#	N-80	LT&C	

* due to availability 23# HCP-110 may be substituted for 26# N-80

Rig up casing tools and run 7" production casing as follows:

Float shoe, 1 joint of 7" 26# N-80 LT&C casing, Float collar, Run balance of 7" 26# N80.

CEMENT PROGRAM FOR PRODUCTION CASING

500 sx (50:50) POZ Premium
2 % Bentonite
Friction reducer, salt & flocele

Weight: 14.35 ppg
Yield: 1.27 ft³/sx

TOC at \pm 5900 ft in 9-5/8" csg; Calculate cement volume based on log caliper +/- 25%.
Displace cement w/water. Hang 85-90% casing weight in slips, ND, cut off, install B-section and night cap. Clean pits and release rig.

SCHEDULE

Location preparation is presently scheduled to begin on or about existing
Drilling operations are anticipated to begin on or about July 1, 2005
end

PRESSURE CONTROL SYSTEM SCHEMATIC

Prepared by:
EXACT Engineering, Inc
Tulsa, OK (918) 599-9400

Operator:

Wolverine Gas & Oil Co. of Utah, LLC

Well name and number

Wolverine Federal #19-1

5M BOP Stack --- to be utilized while drilling holes for protective and production casings thru lower Arapien, Twin Creek & Navajo intervals

Max. anticipated surface pressure 3000 psi

Annular B.O.P. 13-5/8" - 5M WP

B.O.P. 5" pipe Rams 13-5/8" - 5M W.P.
(Pipe/Blind)

B.O.P. blind Rams 13-5/8" - 5M W.P.
(Pipe/Blind)

Check Valve 2-1/16" 5M WP

Valve 2-1/16" 5M WP

Valve 2-1/16" 5M WP

Valve 3-1/16" 5M WP

Valve 3-1/16" 5M WP

Kill Line Manifold

Manifold Line

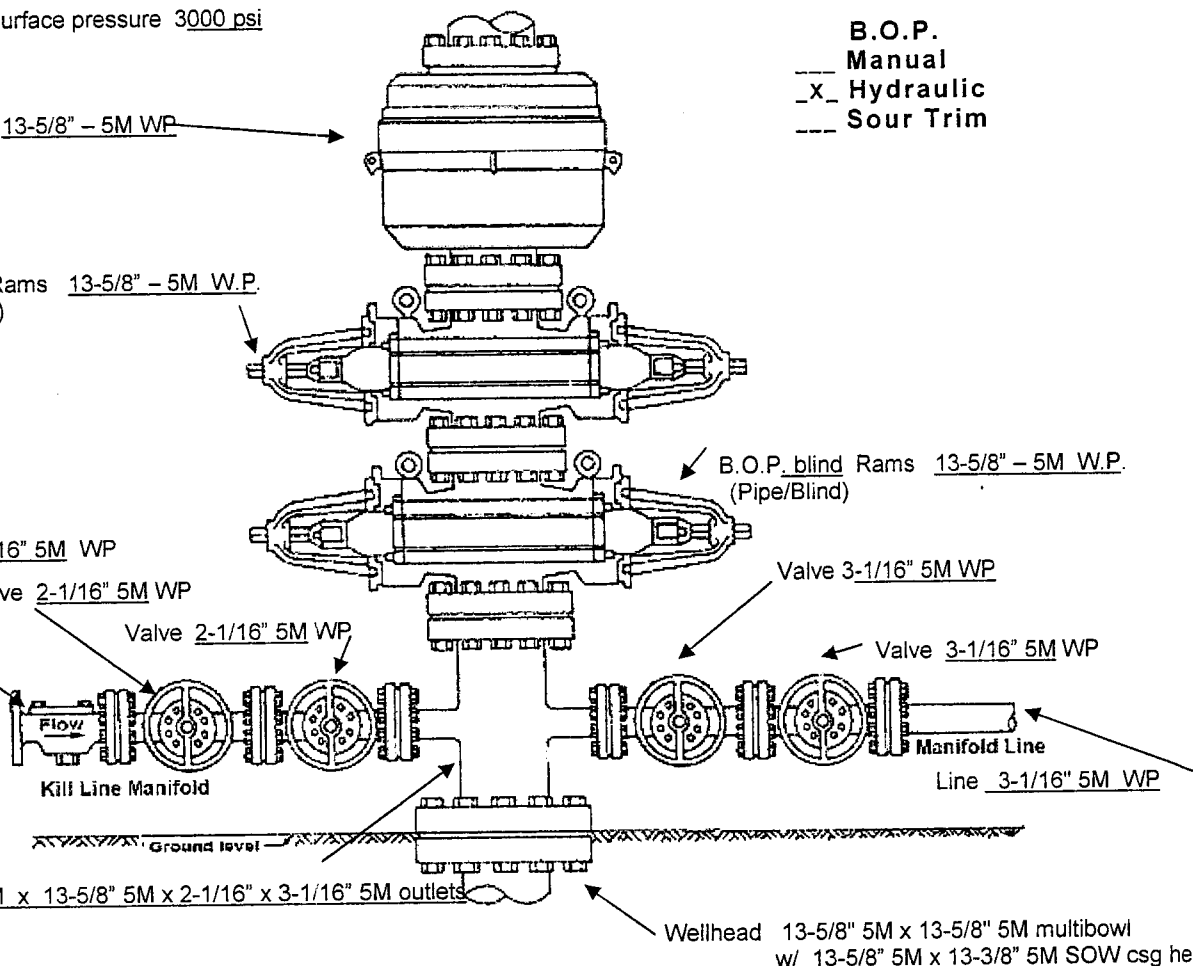
Line 3-1/16" 5M WP

Ground level

Spool 13-5/8" 5M x 13-5/8" 5M x 2-1/16" x 3-1/16" 5M outlets

Wellhead 13-5/8" 5M x 13-5/8" 5M multibowl
w/ 13-5/8" 5M x 13-3/8" 5M SOW csg head

B.O.P.
___ Manual
x Hydraulic
___ Sour Trim



WOLVERINE GAS & OIL CO. OF UTAH
Wolverine Fed. 19-1
Sevier County, Utah



SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	250.00	0.00	233.00	250.00	0.00	0.00	0.00	233.00	0.00	
3	783.33	16.00	233.00	776.43	-44.53	-59.09	3.00	-127.00	73.98	
4	1416.67	35.00	233.00	1345.45	-207.86	-275.84	3.00	0.00	345.38	
5	6732.59	35.00	233.00	5700.00	-2042.85	-2710.95	0.00	0.00	3394.37	
6	7732.59	5.00	233.00	6629.00	-2246.34	-2980.99	3.00	180.00	3732.48	
7	7753.68	5.00	233.00	6650.00	-2247.45	-2982.46	0.00	0.00	3734.32	PBHL

SITE DETAILS	
Wolverine Federal #19-1(Pad B1)	
Section 17 23S 1W Sevier County Utah	
798' FSL & 1937' FWL	
Site Centre Latitude: 38°47'50.795N	
Longitude: 111°56'04.933W	
Water Depth: 0.00	
Positional Uncertainty: 0.00	
Convergence: -0.28	

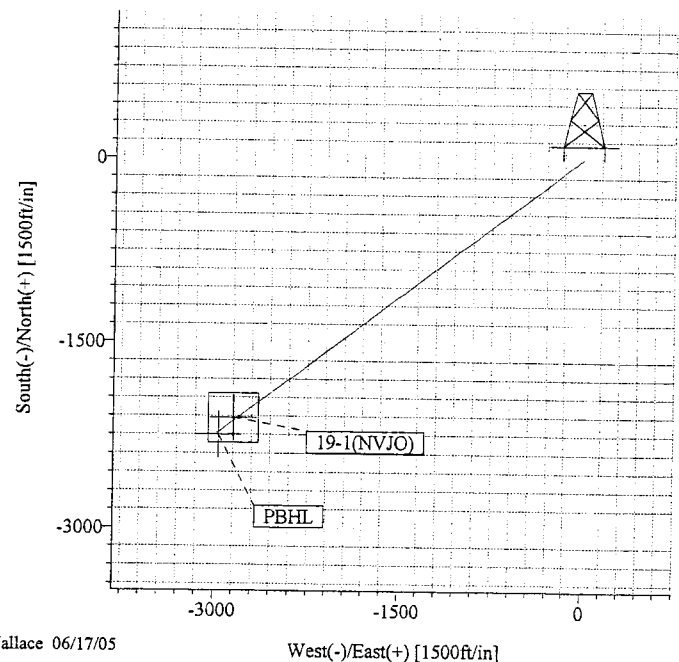
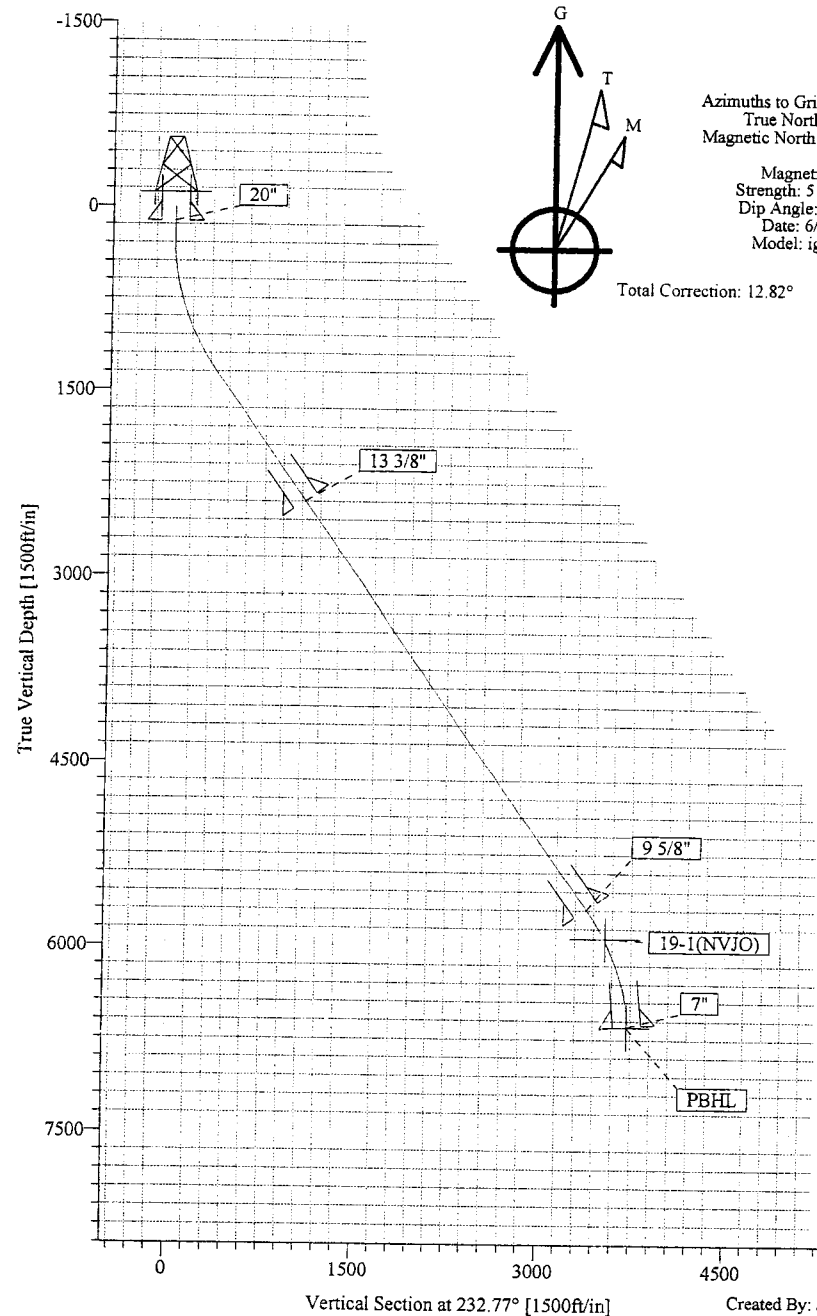
WELL DETAILS							
Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
Wolverine Federal 19-1	0.00	0.00	6731032.57	1516515.42	38°47'50.795N	111°56'04.933W	N/A

TARGET DETAILS				
Name	TVD	+N/-S	+E/-W	Shape
19-1(NVJO)	5931.00	-2119.00	-2845.00	Rectangle (400x400)
PBHL	6650.00	-2252.06	-2963.91	Point

FIELD DETAILS	
Sevier County, Utah	
Geodetic System: US State Plane Coordinate System 1983	
Ellipsoid: GRS 1980	
Zone: Utah, Central Zone	
Magnetic Model: igr2005	
System Datum: Mean Sea Level	
Local North: Grid North	

CASING DETAILS				
No.	TVD	MD	Name	Size
1	123.00	123.00	20"	20.000
2	2396.70	2700.00	13 3/8"	13.375
3	5700.00	6732.59	9 5/8"	9.625
4	6649.00	7752.67	7"	7.000

FORMATION TOP DETAILS			
No.	TVDPath	MDPath	Formation
1	5559.00	6560.46	Twin Creek
2	5927.00	6997.69	NVJ01
3	6117.00	7205.66	HGRZ
4	6440.00	7541.72	OWC



Weatherford International

Planning Report

Company: Wolverine Gas & Oil Co of Utah Field: Sevier County, Utah Site: Wolverine Federal #19-1(Pad B1) Well: Wolverine Federal 19-1 Wellpath: 1	Date: 6/17/2005 Co-ordinate(NE) Reference: Well: Wolverine Federal 19-1, Grid North Vertical (TVD) Reference: System: Mean Sea Level Section (VS) Reference: User (0.00N,0.00E,232.53Azi) Plan: Plan #2
--	--

Field: Sevier County, Utah

Map System: US State Plane Coordinate System 1983
Geo Datum: GRS 1980
Sys Datum: Mean Sea Level

Map Zone: Utah, Central Zone
Coordinate System: Well Centre
Geomagnetic Model: igrf2005

Site: Wolverine Federal #19-1(Pad B1)
 Section 17 23S 1W Sevier County Utah
 798' FSL & 1937' FWL

Site Position:	Northing: 6731032.57 ft	Latitude: 38 47 50.795 N
From: Geographic	Easting: 1516515.42 ft	Longitude: 111 56 4.933 W
Position Uncertainty: 0.00 ft		North Reference: Grid
Ground Level: 0.00 ft		Grid Convergence: -0.28 deg

Well: Wolverine Federal 19-1

Slot Name:

Well Position:	Northing: 6731032.57 ft	Latitude: 38 47 50.795 N
+N/-S 0.00 ft	Easting: 1516515.42 ft	Longitude: 111 56 4.933 W
+E/-W 0.00 ft		
Position Uncertainty: 0.00 ft		

Wellpath: 1

Current Datum: Mean Sea Level	Height 0.00 ft	Drilled From: Surface
Magnetic Data: 6/9/2005		Tie-on Depth: 0.00 ft
Field Strength: 51933 nT		Above System Datum: Mean Sea Level
Vertical Section: Depth From (TVD)	+N/-S ft	Declination: 12.55 deg
		Mag Dip Angle: 64.51 deg
		+E/-W ft
		Direction deg
0.00	0.00	232.53

Plan: Plan #2

Date Composed: 6/9/2005
Version: 2
Tied-to: From Surface

Principal: Yes

Plan Section Information

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	TFO deg	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
250.00	0.00	233.00	250.00	0.00	0.00	0.00	0.00	0.00	233.00	
783.33	16.00	233.00	776.43	-44.53	-59.09	3.00	3.00	0.00	-127.00	
1416.67	35.00	233.00	1345.45	-207.86	-275.84	3.00	3.00	0.00	0.00	
6732.59	35.00	233.00	5700.00	-2042.85	-2710.95	0.00	0.00	0.00	0.00	
7732.59	5.00	233.00	6629.00	-2246.34	-2980.99	3.00	-3.00	0.00	180.00	
7753.68	5.00	233.00	6650.00	-2247.45	-2982.46	0.00	0.00	0.00	0.00	PBHL

Section 1 : Start Hold

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	TFO deg
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	233.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	233.00
123.00	0.00	233.00	123.00	0.00	0.00	0.00	0.00	0.00	0.00	233.00
200.00	0.00	233.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	233.00
250.00	0.00	233.00	250.00	0.00	0.00	0.00	0.00	0.00	0.00	233.00

Section 2 : Start Build 3.00

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	TFO deg
300.00	1.50	233.00	299.99	-0.39	-0.52	0.65	3.00	3.00	0.00	0.00
400.00	4.50	233.00	399.85	-3.54	-4.70	5.89	3.00	3.00	0.00	0.00
500.00	7.50	233.00	499.29	-9.83	-13.05	16.34	3.00	3.00	0.00	0.00
600.00	10.50	233.00	598.04	-19.25	-25.54	31.98	3.00	3.00	0.00	0.00
700.00	13.50	233.00	695.85	-31.76	-42.14	52.77	3.00	3.00	0.00	0.00
783.33	16.00	233.00	776.43	-44.53	-59.09	73.98	3.00	3.00	0.00	0.00

Weatherford International

Planning Report

Company: Wolverine Gas & Oil Co of Utah
 Field: Sevier County, Utah
 Site: Wolverine Federal #19-1(Pad B1)
 Well: Wolverine Federal 19-1
 Wellpath: 1

Date: 6/17/2005 Time: 14:51:37 Page: 2
 Co-ordinate(NE) Reference: Well: Wolverine Federal 19-1, Grid North
 Vertical (TVD) Reference: System: Mean Sea Level
 Section (VS) Reference: User (0.00N,0.00E,232.53Azi)
 Plan: Plan #2

Section 3 : Start Build 3.00

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	TFO deg
800.00	16.50	233.00	792.43	-47.33	-62.81	78.65	3.00	3.00	0.00	0.00
900.00	19.50	233.00	887.52	-65.93	-87.49	109.54	3.00	3.00	0.00	0.00
1000.00	22.50	233.00	980.87	-87.49	-116.11	145.37	3.00	3.00	0.00	0.00
1100.00	25.50	233.00	1072.22	-111.97	-148.58	186.04	3.00	3.00	0.00	0.00
1200.00	28.50	233.00	1161.31	-139.29	-184.84	231.43	3.00	3.00	0.00	0.00
1300.00	31.50	233.00	1247.90	-169.37	-224.77	281.43	3.00	3.00	0.00	0.00
1400.00	34.50	233.00	1331.76	-202.15	-268.26	335.88	3.00	3.00	0.00	0.00
1416.67	35.00	233.00	1345.45	-207.86	-275.84	345.38	3.00	3.00	0.00	0.00

Section 4 : Start Hold

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	TFO deg
1500.00	35.00	233.00	1413.71	-236.63	-314.02	393.18	0.00	0.00	0.00	0.00
1600.00	35.00	233.00	1495.63	-271.15	-359.83	450.53	0.00	0.00	0.00	0.00
1700.00	35.00	233.00	1577.54	-305.67	-405.63	507.89	0.00	0.00	0.00	0.00
1800.00	35.00	233.00	1659.46	-340.19	-451.44	565.25	0.00	0.00	0.00	0.00
1900.00	35.00	233.00	1741.37	-374.70	-497.25	622.60	0.00	0.00	0.00	0.00
2000.00	35.00	233.00	1823.29	-409.22	-543.06	679.96	0.00	0.00	0.00	0.00
2100.00	35.00	233.00	1905.20	-443.74	-588.86	737.31	0.00	0.00	0.00	0.00
2200.00	35.00	233.00	1987.12	-478.26	-634.67	794.67	0.00	0.00	0.00	0.00
2300.00	35.00	233.00	2069.03	-512.78	-680.48	852.02	0.00	0.00	0.00	0.00
2400.00	35.00	233.00	2150.95	-547.30	-726.29	909.38	0.00	0.00	0.00	0.00
2500.00	35.00	233.00	2232.87	-581.82	-772.10	966.74	0.00	0.00	0.00	0.00
2600.00	35.00	233.00	2314.78	-616.33	-817.90	1024.09	0.00	0.00	0.00	0.00
2700.00	35.00	233.00	2396.70	-650.85	-863.71	1081.45	0.00	0.00	0.00	0.00
2800.00	35.00	233.00	2478.61	-685.37	-909.52	1138.80	0.00	0.00	0.00	0.00
2900.00	35.00	233.00	2560.53	-719.89	-955.33	1196.16	0.00	0.00	0.00	0.00
3000.00	35.00	233.00	2642.44	-754.41	-1001.13	1253.51	0.00	0.00	0.00	0.00
3100.00	35.00	233.00	2724.36	-788.93	-1046.94	1310.87	0.00	0.00	0.00	0.00
3200.00	35.00	233.00	2806.27	-823.45	-1092.75	1368.23	0.00	0.00	0.00	0.00
3300.00	35.00	233.00	2888.19	-857.97	-1138.56	1425.58	0.00	0.00	0.00	0.00
3400.00	35.00	233.00	2970.10	-892.48	-1184.37	1482.94	0.00	0.00	0.00	0.00
3500.00	35.00	233.00	3052.02	-927.00	-1230.17	1540.29	0.00	0.00	0.00	0.00
3600.00	35.00	233.00	3133.93	-961.52	-1275.98	1597.65	0.00	0.00	0.00	0.00
3700.00	35.00	233.00	3215.85	-996.04	-1321.79	1655.00	0.00	0.00	0.00	0.00
3800.00	35.00	233.00	3297.76	-1030.56	-1367.60	1712.36	0.00	0.00	0.00	0.00
3900.00	35.00	233.00	3379.68	-1065.08	-1413.41	1769.72	0.00	0.00	0.00	0.00
4000.00	35.00	233.00	3461.59	-1099.60	-1459.21	1827.07	0.00	0.00	0.00	0.00
4100.00	35.00	233.00	3543.51	-1134.11	-1505.02	1884.43	0.00	0.00	0.00	0.00
4200.00	35.00	233.00	3625.42	-1168.63	-1550.83	1941.78	0.00	0.00	0.00	0.00
4300.00	35.00	233.00	3707.34	-1203.15	-1596.64	1999.14	0.00	0.00	0.00	0.00
4400.00	35.00	233.00	3789.25	-1237.67	-1642.44	2056.49	0.00	0.00	0.00	0.00
4500.00	35.00	233.00	3871.17	-1272.19	-1688.25	2113.85	0.00	0.00	0.00	0.00
4600.00	35.00	233.00	3953.08	-1306.71	-1734.06	2171.21	0.00	0.00	0.00	0.00
4700.00	35.00	233.00	4035.00	-1341.23	-1779.87	2228.56	0.00	0.00	0.00	0.00
4800.00	35.00	233.00	4116.91	-1375.75	-1825.68	2285.92	0.00	0.00	0.00	0.00
4900.00	35.00	233.00	4198.83	-1410.26	-1871.48	2343.27	0.00	0.00	0.00	0.00
5000.00	35.00	233.00	4280.75	-1444.78	-1917.29	2400.63	0.00	0.00	0.00	0.00
5100.00	35.00	233.00	4362.66	-1479.30	-1963.10	2457.98	0.00	0.00	0.00	0.00
5200.00	35.00	233.00	4444.58	-1513.82	-2008.91	2515.34	0.00	0.00	0.00	0.00
5300.00	35.00	233.00	4526.49	-1548.34	-2054.72	2572.70	0.00	0.00	0.00	0.00
5400.00	35.00	233.00	4608.41	-1582.86	-2100.52	2630.05	0.00	0.00	0.00	0.00
5500.00	35.00	233.00	4690.32	-1617.38	-2146.33	2687.41	0.00	0.00	0.00	0.00
5600.00	35.00	233.00	4772.24	-1651.90	-2192.14	2744.76	0.00	0.00	0.00	0.00
5700.00	35.00	233.00	4854.15	-1686.41	-2237.95	2802.12	0.00	0.00	0.00	0.00
5800.00	35.00	233.00	4936.07	-1720.93	-2283.75	2859.47	0.00	0.00	0.00	0.00
5900.00	35.00	233.00	5017.98	-1755.45	-2329.56	2916.83	0.00	0.00	0.00	0.00
6000.00	35.00	233.00	5099.90	-1789.97	-2375.37	2974.19	0.00	0.00	0.00	0.00
6100.00	35.00	233.00	5181.81	-1824.49	-2421.18	3031.54	0.00	0.00	0.00	0.00
6200.00	35.00	233.00	5263.73	-1859.01	-2466.99	3088.90	0.00	0.00	0.00	0.00
6300.00	35.00	233.00	5345.64	-1893.53	-2512.79	3146.25	0.00	0.00	0.00	0.00
6400.00	35.00	233.00	5427.56	-1928.04	-2558.60	3203.61	0.00	0.00	0.00	0.00
6500.00	35.00	233.00	5509.47	-1962.56	-2604.41	3260.96	0.00	0.00	0.00	0.00

Weatherford International

Planning Report

Company: Wolverine Gas & Oil Co of Utah
Field: Sevier County, Utah
Site: Wolverine Federal #19-1(Pad B1)
Well: Wolverine Federal 19-1
Wellpath: 1

Date: 6/17/2005 **Time:** 14:51:37 **Page:** 3
Co-ordinate(NE) Reference: Well: Wolverine Federal 19-1, Grid North
Vertical (TVD) Reference: System: Mean Sea Level
Section (VS) Reference: User (0.00N,0.00E,232.53Azi)
Plan: Plan #2

Section 4 : Start Hold

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	TFO deg
6560.46	35.00	233.00	5559.00	-1983.43	-2632.11	3295.64	0.00	0.00	0.00	0.00
6600.00	35.00	233.00	5591.39	-1997.08	-2650.22	3318.32	0.00	0.00	0.00	0.00
6700.00	35.00	233.00	5673.30	-2031.60	-2696.03	3375.68	0.00	0.00	0.00	0.00
6732.59	35.00	233.00	5700.00	-2042.85	-2710.95	3394.37	0.00	0.00	0.00	0.00

Section 5 : Start Drop -3.00

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	TFO deg
6800.00	32.98	233.00	5755.89	-2065.53	-2741.05	3432.05	3.00	-3.00	0.00	180.00
6900.00	29.98	233.00	5841.16	-2096.95	-2782.75	3484.26	3.00	-3.00	0.00	180.00
6997.69	27.05	233.00	5927.00	-2125.01	-2819.99	3530.89	3.00	-3.00	0.00	-180.00
7000.00	26.98	233.00	5929.05	-2125.64	-2820.82	3531.93	3.00	-3.00	0.00	180.00
7002.18	26.91	233.00	5931.00	-2126.24	-2821.61	3532.92	3.00	-3.00	0.00	-180.00
7100.00	23.98	233.00	6019.32	-2151.53	-2855.17	3574.94	3.00	-3.00	0.00	180.00
7200.00	20.98	233.00	6111.71	-2174.53	-2885.70	3613.17	3.00	-3.00	0.00	180.00
7205.66	20.81	233.00	6117.00	-2175.75	-2887.31	3615.19	3.00	-3.00	0.00	-180.00
7300.00	17.98	233.00	6205.98	-2194.60	-2912.33	3646.51	3.00	-3.00	0.00	180.00
7400.00	14.98	233.00	6301.86	-2211.67	-2934.98	3674.87	3.00	-3.00	0.00	180.00
7500.00	11.98	233.00	6399.10	-2225.69	-2953.59	3698.17	3.00	-3.00	0.00	180.00
7541.72	10.73	233.00	6440.00	-2230.63	-2960.15	3706.38	3.00	-3.00	0.00	-180.00
7600.00	8.98	233.00	6497.42	-2236.63	-2968.11	3716.35	3.00	-3.00	0.00	180.00
7700.00	5.98	233.00	6596.55	-2244.46	-2978.50	3729.37	3.00	-3.00	0.00	180.00
7732.59	5.00	233.00	6629.00	-2246.34	-2980.99	3732.48	3.00	-3.00	0.00	-180.00

Section 6 : Start Hold

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	TFO deg
7752.67	5.00	233.00	6649.00	-2247.39	-2982.39	3734.23	0.00	0.00	0.00	0.00
7753.68	5.00	233.00	6650.00	-2247.45	-2982.46	3734.32	0.00	0.00	0.00	0.00

Survey

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
100.00	0.00	233.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	MWD
123.00	0.00	233.00	123.00	0.00	0.00	0.00	0.00	0.00	0.00	20"
200.00	0.00	233.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	MWD
250.00	0.00	233.00	250.00	0.00	0.00	0.00	0.00	0.00	0.00	MWD
300.00	1.50	233.00	299.99	-0.39	-0.52	0.65	3.00	3.00	0.00	MWD
400.00	4.50	233.00	399.85	-3.54	-4.70	5.89	3.00	3.00	0.00	MWD
500.00	7.50	233.00	499.29	-9.83	-13.05	16.34	3.00	3.00	0.00	MWD
600.00	10.50	233.00	598.04	-19.25	-25.54	31.98	3.00	3.00	0.00	MWD
700.00	13.50	233.00	695.85	-31.76	-42.14	52.77	3.00	3.00	0.00	MWD
783.33	16.00	233.00	776.43	-44.53	-59.09	73.98	3.00	3.00	0.00	MWD
800.00	16.50	233.00	792.43	-47.33	-62.81	78.65	3.00	3.00	0.00	MWD
900.00	19.50	233.00	887.52	-65.93	-87.49	109.54	3.00	3.00	0.00	MWD
1000.00	22.50	233.00	980.87	-87.49	-116.11	145.37	3.00	3.00	0.00	MWD
1100.00	25.50	233.00	1072.22	-111.97	-148.58	186.04	3.00	3.00	0.00	MWD
1200.00	28.50	233.00	1161.31	-139.29	-184.84	231.43	3.00	3.00	0.00	MWD
1300.00	31.50	233.00	1247.90	-169.37	-224.77	281.43	3.00	3.00	0.00	MWD
1400.00	34.50	233.00	1331.76	-202.15	-268.26	335.88	3.00	3.00	0.00	MWD
1416.67	35.00	233.00	1345.45	-207.86	-275.84	345.38	3.00	3.00	0.00	MWD
1500.00	35.00	233.00	1413.71	-236.63	-314.02	393.18	0.00	0.00	0.00	MWD
1600.00	35.00	233.00	1495.63	-271.15	-359.83	450.53	0.00	0.00	0.00	MWD
1700.00	35.00	233.00	1577.54	-305.67	-405.63	507.89	0.00	0.00	0.00	MWD
1800.00	35.00	233.00	1659.46	-340.19	-451.44	565.25	0.00	0.00	0.00	MWD
1900.00	35.00	233.00	1741.37	-374.70	-497.25	622.60	0.00	0.00	0.00	MWD

Weatherford International

Planning Report

Company: Wolverine Gas & Oil Co of Utah
 Field: Sevier County, Utah
 Site: Wolverine Federal #19-1(Pad B1)
 Well: Wolverine Federal 19-1
 Wellpath: 1

Date: 6/17/2005 Time: 14:51:37 Page: 4
 Co-ordinate(NE) Reference: Well: Wolverine Federal 19-1, Grid North
 Vertical (TVD) Reference: System: Mean Sea Level
 Section (VS) Reference: User (0.00N,0.00E,232.53Azi)
 Plan: Plan #2

Survey

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
2000.00	35.00	233.00	1823.29	-409.22	-543.06	679.96	0.00	0.00	0.00	MWD
2100.00	35.00	233.00	1905.20	-443.74	-588.86	737.31	0.00	0.00	0.00	MWD
2200.00	35.00	233.00	1987.12	-478.26	-634.67	794.67	0.00	0.00	0.00	MWD
2300.00	35.00	233.00	2069.03	-512.78	-680.48	852.02	0.00	0.00	0.00	MWD
2400.00	35.00	233.00	2150.95	-547.30	-726.29	909.38	0.00	0.00	0.00	MWD
2500.00	35.00	233.00	2232.87	-581.82	-772.10	966.74	0.00	0.00	0.00	MWD
2600.00	35.00	233.00	2314.78	-616.33	-817.90	1024.09	0.00	0.00	0.00	MWD
2700.00	35.00	233.00	2396.70	-650.85	-863.71	1081.45	0.00	0.00	0.00	13 3/8"
2800.00	35.00	233.00	2478.61	-685.37	-909.52	1138.80	0.00	0.00	0.00	MWD
2900.00	35.00	233.00	2560.53	-719.89	-955.33	1196.16	0.00	0.00	0.00	MWD
3000.00	35.00	233.00	2642.44	-754.41	-1001.13	1253.51	0.00	0.00	0.00	MWD
3100.00	35.00	233.00	2724.36	-788.93	-1046.94	1310.87	0.00	0.00	0.00	MWD
3200.00	35.00	233.00	2806.27	-823.45	-1092.75	1368.23	0.00	0.00	0.00	MWD
3300.00	35.00	233.00	2888.19	-857.97	-1138.56	1425.58	0.00	0.00	0.00	MWD
3400.00	35.00	233.00	2970.10	-892.48	-1184.37	1482.94	0.00	0.00	0.00	MWD
3500.00	35.00	233.00	3052.02	-927.00	-1230.17	1540.29	0.00	0.00	0.00	MWD
3600.00	35.00	233.00	3133.93	-961.52	-1275.98	1597.65	0.00	0.00	0.00	MWD
3700.00	35.00	233.00	3215.85	-996.04	-1321.79	1655.00	0.00	0.00	0.00	MWD
3800.00	35.00	233.00	3297.76	-1030.56	-1367.60	1712.36	0.00	0.00	0.00	MWD
3900.00	35.00	233.00	3379.68	-1065.08	-1413.41	1769.72	0.00	0.00	0.00	MWD
4000.00	35.00	233.00	3461.59	-1099.60	-1459.21	1827.07	0.00	0.00	0.00	MWD
4100.00	35.00	233.00	3543.51	-1134.11	-1505.02	1884.43	0.00	0.00	0.00	MWD
4200.00	35.00	233.00	3625.42	-1168.63	-1550.83	1941.78	0.00	0.00	0.00	MWD
4300.00	35.00	233.00	3707.34	-1203.15	-1596.64	1999.14	0.00	0.00	0.00	MWD
4400.00	35.00	233.00	3789.25	-1237.67	-1642.44	2056.49	0.00	0.00	0.00	MWD
4500.00	35.00	233.00	3871.17	-1272.19	-1688.25	2113.85	0.00	0.00	0.00	MWD
4600.00	35.00	233.00	3953.08	-1306.71	-1734.06	2171.21	0.00	0.00	0.00	MWD
4700.00	35.00	233.00	4035.00	-1341.23	-1779.87	2228.56	0.00	0.00	0.00	MWD
4800.00	35.00	233.00	4116.91	-1375.75	-1825.68	2285.92	0.00	0.00	0.00	MWD
4900.00	35.00	233.00	4198.83	-1410.26	-1871.48	2343.27	0.00	0.00	0.00	MWD
5000.00	35.00	233.00	4280.75	-1444.78	-1917.29	2400.63	0.00	0.00	0.00	MWD
5100.00	35.00	233.00	4362.66	-1479.30	-1963.10	2457.98	0.00	0.00	0.00	MWD
5200.00	35.00	233.00	4444.58	-1513.82	-2008.91	2515.34	0.00	0.00	0.00	MWD
5300.00	35.00	233.00	4526.49	-1548.34	-2054.72	2572.70	0.00	0.00	0.00	MWD
5400.00	35.00	233.00	4608.41	-1582.86	-2100.52	2630.05	0.00	0.00	0.00	MWD
5500.00	35.00	233.00	4690.32	-1617.38	-2146.33	2687.41	0.00	0.00	0.00	MWD
5600.00	35.00	233.00	4772.24	-1651.90	-2192.14	2744.76	0.00	0.00	0.00	MWD
5700.00	35.00	233.00	4854.15	-1686.41	-2237.95	2802.12	0.00	0.00	0.00	MWD
5800.00	35.00	233.00	4936.07	-1720.93	-2283.75	2859.47	0.00	0.00	0.00	MWD
5900.00	35.00	233.00	5017.98	-1755.45	-2329.56	2916.83	0.00	0.00	0.00	MWD
6000.00	35.00	233.00	5099.90	-1789.97	-2375.37	2974.19	0.00	0.00	0.00	MWD
6100.00	35.00	233.00	5181.81	-1824.49	-2421.18	3031.54	0.00	0.00	0.00	MWD
6200.00	35.00	233.00	5263.73	-1859.01	-2466.99	3088.90	0.00	0.00	0.00	MWD
6300.00	35.00	233.00	5345.64	-1893.53	-2512.79	3146.25	0.00	0.00	0.00	MWD
6400.00	35.00	233.00	5427.56	-1928.04	-2558.60	3203.61	0.00	0.00	0.00	MWD
6500.00	35.00	233.00	5509.47	-1962.56	-2604.41	3260.96	0.00	0.00	0.00	MWD
6560.46	35.00	233.00	5559.00	-1983.43	-2632.11	3295.64	0.00	0.00	0.00	Twin Creek
6600.00	35.00	233.00	5591.39	-1997.08	-2650.22	3318.32	0.00	0.00	0.00	MWD
6700.00	35.00	233.00	5673.30	-2031.60	-2696.03	3375.68	0.00	0.00	0.00	MWD
6732.59	35.00	233.00	5700.00	-2042.85	-2710.95	3394.37	0.00	0.00	0.00	9 5/8"
6800.00	32.98	233.00	5755.89	-2065.53	-2741.05	3432.05	3.00	-3.00	0.00	MWD
6900.00	29.98	233.00	5841.16	-2096.95	-2782.75	3484.26	3.00	-3.00	0.00	MWD
6997.69	27.05	233.00	5927.00	-2125.01	-2819.99	3530.89	3.00	-3.00	0.00	NVJ01

Weatherford International

Planning Report

Company: Wolverine Gas & Oil Co of Utah
Field: Sevier County, Utah
Site: Wolverine Federal #19-1(Pad B1)
Well: Wolverine Federal 19-1
Wellpath: 1

Date: 6/17/2005
Co-ordinate(NE) Reference: Well: Wolverine Federal 19-1, Grid North
Vertical (TVD) Reference: System: Mean Sea Level
Section (VS) Reference: User (0.00N,0.00E,232.53Azi)
Plan: Plan #2

Page: 5

Survey

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
7000.00	26.98	233.00	5929.05	-2125.64	-2820.82	3531.93	3.00	-3.00	0.00	MWD
7002.18	26.91	233.00	5931.00	-2126.24	-2821.61	3532.92	3.00	-3.00	0.00	19-1(NVJO)
7100.00	23.98	233.00	6019.32	-2151.53	-2855.17	3574.94	3.00	-3.00	0.00	MWD
7200.00	20.98	233.00	6111.71	-2174.53	-2885.70	3613.17	3.00	-3.00	0.00	MWD
7205.66	20.81	233.00	6117.00	-2175.75	-2887.31	3615.19	3.00	-3.00	0.00	HGRZ
7300.00	17.98	233.00	6205.98	-2194.60	-2912.33	3646.51	3.00	-3.00	0.00	MWD
7400.00	14.98	233.00	6301.86	-2211.67	-2934.98	3674.87	3.00	-3.00	0.00	MWD
7500.00	11.98	233.00	6399.10	-2225.69	-2953.59	3698.17	3.00	-3.00	0.00	MWD
7541.72	10.73	233.00	6440.00	-2230.63	-2960.15	3706.38	3.00	-3.00	0.00	OWC
7600.00	8.98	233.00	6497.42	-2236.63	-2968.11	3716.35	3.00	-3.00	0.00	MWD
7700.00	5.98	233.00	6596.55	-2244.46	-2978.50	3729.37	3.00	-3.00	0.00	MWD
7732.59	5.00	233.00	6629.00	-2246.34	-2980.99	3732.48	3.00	-3.00	0.00	MWD
7752.67	5.00	233.00	6649.00	-2247.39	-2982.39	3734.23	0.00	0.00	0.00	7"
7753.68	5.00	233.00	6650.00	-2247.45	-2982.46	3734.32	0.00	0.00	0.00	PBHL

Targets

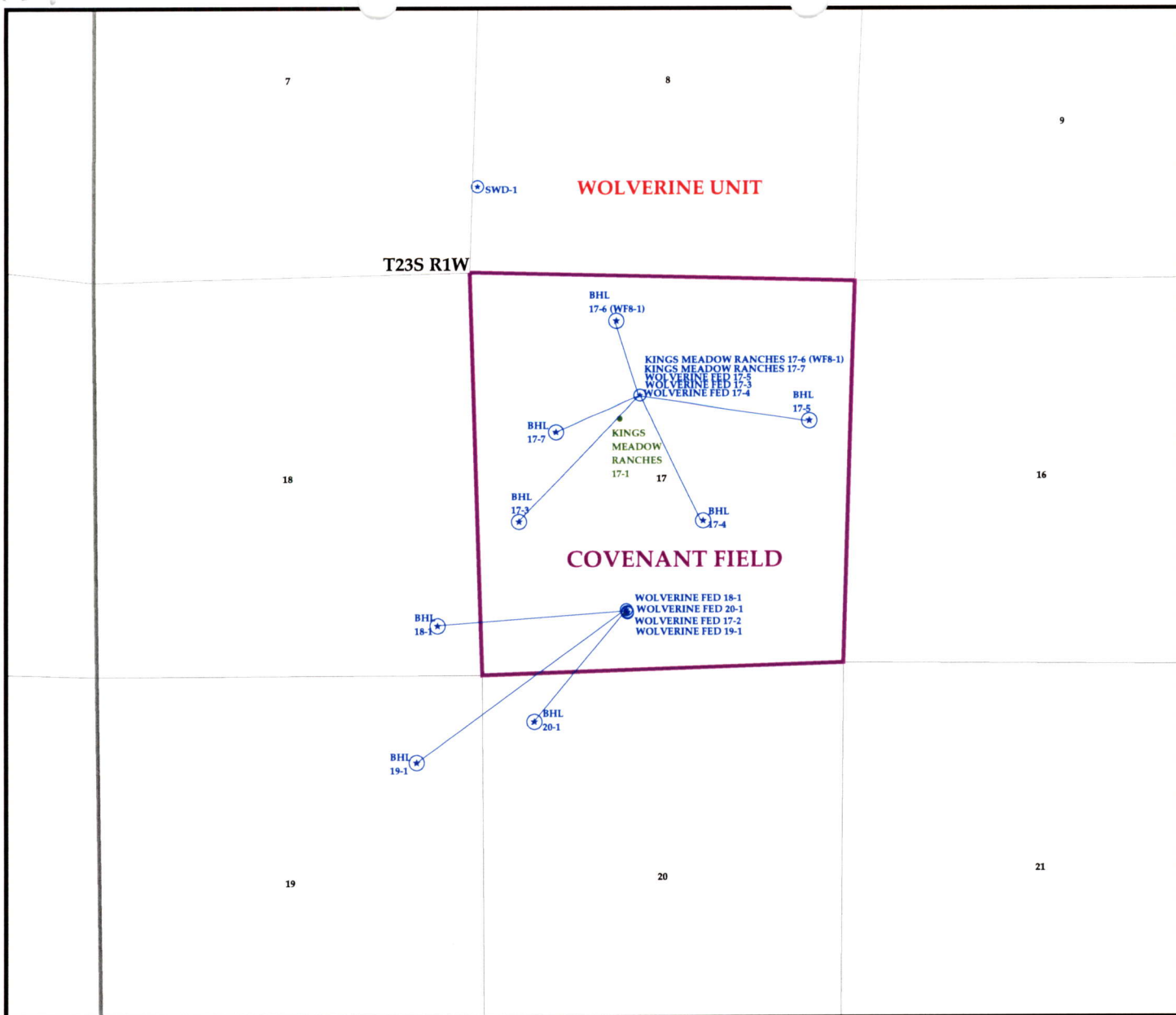
Name	Description Dip. Dir.	TVD ft	+N/-S ft	+E/-W ft	Map Northing ft	Map Easting ft	<--- Latitude ---> Deg Min Sec			<--- Longitude ---> Deg Min Sec		
19-1(NVJO)		5931.00	-2119.00	-2845.00	6728913.57	1513670.42	38	47	29.713 N	111	56	40.732 W
-Rectangle (400x400)												
-Plan out by 24.48 at		5931.00	-2126.24	-2821.61	6728906.34	1513693.81	38	47	29.642 N	111	56	40.436 W
PBHL		6650.00	-2252.06	-2963.91	6728780.51	1513551.51	38	47	28.392 N	111	56	42.225 W
-Plan out by 19.12 at		6650.00	-2247.45	-2982.46	6728785.13	1513532.96	38	47	28.437 N	111	56	42.460 W

Casing Points

MD ft	TVD ft	Diameter in	Hole Size in	Name
123.00	123.00	20.000	26.000	20"
2700.00	2396.70	13.375	17.500	13 3/8"
6732.59	5700.00	9.625	12.250	9 5/8"
7752.67	6649.00	7.000	8.500	7"

Formations

MD ft	TVD ft	Formations	Lithology	Dip Angle deg	Dip Direction deg
6560.46	5559.00	Twin Creek		0.00	0.00
6997.69	5927.00	NVJ01		0.00	0.00
7205.66	6117.00	HGRZ		0.00	0.00
7541.72	6440.00	OWC		0.00	0.00



OPERATOR: WOLVERINE G&O (N1655)

SEC: 17 T. 23S R. 1W

FIELD: COVENANT (492)

COUNTY: SEVIER

SPACING: R649-3-11 / DIRECTIONAL DRILLING



Wells	Units.shp	Fields.shp
<ul style="list-style-type: none"> GAS INJECTION GAS STORAGE LOCATION ABANDONED NEW LOCATION PLUGGED & ABANDONED PRODUCING GAS PRODUCING OIL SHUT-IN GAS SHUT-IN OIL TEMP. ABANDONED TEST WELL WATER INJECTION WATER SUPPLY WATER DISPOSAL 	<ul style="list-style-type: none"> EXPLORATORY GAS STORAGE NF PP OIL NF SECONDARY PENDING PI OIL PP GAS PP GEOTHERML PP OIL SECONDARY TERMINATED 	<ul style="list-style-type: none"> ABANDONED ACTIVE COMBINED INACTIVE PROPOSED STORAGE TERMINATED



PREPARED BY: DIANA WHITNEY
DATE: 23-JUNE-2005

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

FORM 6

ENTITY ACTION FORM

Operator: Wolverine Gas and Oil Company of Utah, LLC
 Address: 55 Campau NW, One Riverfront Plaza
city Grand Rapids
state MI zip 49503-2616

Operator Account Number: N 1655Phone Number: (616) 458-1150

Well 1

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304130033	Wolverine Federal 19-1		NENE	19	23S	1W	Sevier
Action Code	Current Entity Number	New Entity Number	Spud Date		Entity Assignment Effective Date		
<u>B</u>	<u>99999</u>	<u>13995</u>	<u>6/30/2005</u>		<u>7-6-05</u>		
Comments: <u>SHL SESW Sec 17</u> <u>NAVA</u>							

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Well 2

API Number	Well Name		QQ	Sec	Twp	Rng	County
Action Code	Current Entity Number	New Entity Number	Spud Date		Entity Assignment Effective Date		
Comments:							

Well 3

API Number	Well Name		QQ	Sec	Twp	Rng	County
Action Code	Current Entity Number	New Entity Number	Spud Date		Entity Assignment Effective Date		
Comments:							

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ACTION CODES:

- A - Establish new entity for new well (single well only)
- B - Add new well to existing entity (group or unit well)
- C - Re-assign well from one existing entity to another existing entity
- D - Re-assign well from one existing entity to a new entity
- E - Other (Explain in 'comments' section)

DIV. OF OIL, GAS & MINING
 Steven R. Hesh - EXACT Engineering Inc
 Name (Please Print) Steven R. Hesh
 Signature
 Consulting Engineer 7/3/2005
 Title Date

EXACT Engineering, Inc.

www.exactengineering.com

415 S. Boston Ave., Suite 734, Tulsa, OK 74103 • (918) 599-9400 • (918) 599-9401 (fax)

Steven R. Hash, P.E.
Registered Professional Engineer
stevehash@exactengineering.com

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July 3, 2005

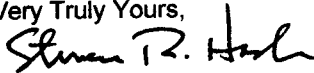
Mr. Dustin Doucet
Utah Division of Oil, Gas & Mining
1594 West North Temple, Suite 1210
Salt Lake City, UT 84114-5801

Re: Wolverine Federal 19-1 well
Sec 17 T23S R01W
Sevier Co., UT
API# 43-041-30033

Dear Mr. Doucet,

On behalf of Wolverine Gas and Oil Company of Utah, LLC, please find enclosed daily drilling reports for the subject well from June 25, 2005 through July 2, 2005. The well spud at 9:00 am on June 30, 2005 and we are presently drilling at 1200'. We respectfully request that the enclosed information remain confidential.

Very Truly Yours,



Steven R. Hash
Consulting Engineer for Wolverine Gas and Oil Company of Utah, LLC

copy without enclosures via email to:

Wolverine Gas & Oil Co of Utah, LLC:	Helene Bardolph
EXACT Engineering, Inc.	well file

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DIV. OF OIL, GAS & MINING

Petroleum Engineering Consulting, Personnel & Jobsite Supervision
complete well design, construction & management, drilling, completion, production, pipelines, appraisals,
due diligence, acquisitions, procedures, temporary personnel and field supervision

Operator: Wolverine G&O Co of Utah, LLC

DAILY DRILLING REPORT

24 hrs - midnight to midnight

DATE	WELL	CONTRACTOR	COUNTY, STATE	SPUD DATE	API#	SUPERVISOR	
07/02/05	Wolverine Federal 19-1	Unit Rig #111	Sevier, UT		43-041-30033	G Urban	
DAYS F/ SPUD	PRESENT OPERATIONS @ MIDNIGHT	TOTAL DEPTH	PROGRESS	DRILLING TIME	ROP	FORMATION	AUTH. DEPTH
3	Drilling	1,200	353	23.50	15.0	Arapiean	7750 md

MUD DATA

WT	VIS.	WL	CK	PH	SAND	SOLIDS %	PV	YP	GELS	DEPTH	DATE/TIME	CHLORIDES	CALCIUM	MBT	SALT PPM
H2O															

BIT DATA

BIT NO.	SIZE	MFG.	TYPE	IADC CODE	SERIAL NO.	JETS (1/32nd" or TFA)	IN	DUT	FOOTAGE	HOURS	ROP	MTR	RPM	WOB	DULL CONDITION
1	17.500	STC	XRVC		MR5481	28 28 28	137		1063	62.00	17.1	Y	30-120	40	T B G
											#VALUE!				
											#DIV/0!				
											#DIV/0!				

HYDRAULICS

PUMP NO.	MANUFACTURER	LINER	STROKE LENGTH	GAL / STK	SPM	GPM	AV DP	AV DC	PUMP PRESS.	MTR DIFF PRESS.	H#P / IN ²	ECD	67 spm	76 spm	100 spm
1	National	6"	8.5	2.96	125	370			1000	150			1		
2	National	6"	8.5	2.96	125	370							2		
3	National	6"	8.5	2.96									3		

SLOW PUMP

DRILL STRING				GEOLOGIC				GENERAL INFO			
BOTTOMHOLE ASSEMBLY	LENGTH	O.D.	LD.	FORMATION	MD	TVD	LITHOLOGY	RIG INFO			
17 1/2 BIT	1.50			Arapiean				Rig No	Unit 111		
Directional assembly	125.00			Twin Creek				Cell Noren	918-645-6671		
6 6 5/8 HWDP	180.00			Navajo				Last BOP Test			
18 5" SWDP	545.00							Next BOP Test			
Jar	32.00							Last Safety Meeting	7/2		
4 5" HWDP	120.00							Last BOP Drill			
								Last Operate Pipe Ra			
								Last Operate Blind Ra			
								Last Operate Annular			
Total BHA:	1,003.50										
STRING WT.	BHA WT.	PU WT.	SO WT.	ROT. TORQUE	GRD. ELEVATION	GL TO KB	KB ELEVATION	INTERMEDIATE CSG	LAST CASING	NEXT CASING	
40	40	40	40	100	5,839	17	5,856		20" @ 120'	13.375 @ 2500	

SURVEYS

MD	INCL	AZIMUTH	TVD	SECTION	N+ / S-	E+ / W-	DLS	TOOL	MD	INCL	AZIMUTH	TVD	SECTION	N+ / S-	E+ / W-	DLS	TOOL
994	15.70	221.80	983	116	-78	-87	2.00	MWD									MWD
1,182	15.90	243.30	1164	166	-107	-127	2.60	MWD									MWD

DAILY ACTIVITY

FROM			LAST 24 HOURS:
0:00	14:30	14.50	Drill & Survey 847 to 1059
14:30	15:00	0.50	Rig Service
15:00	0:00	9.00	Drill & Survey 1059 to 1200

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This am. 08:00 drilling @ 1295'

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Daily Total 24.00

COST DATA

Operator: Wolverine G&O Co of Utah, LLC

DAILY DRILLING REPORT

24 hrs - midnight to midnight

DATE	WELL	CONTRACTOR	COUNTY, STATE	SPUD DATE	API#	SUPERVISOR	
07/01/05	Wolverine Federal 19-1	Unit Rig #111	Sevier, UT		43-041-30033	G Urban	
DAYS F/ SPUD	PRESENT OPERATIONS @ MIDNIGHT	TOTAL DEPTH	PROGRESS	DRILLING TIME	ROP	FORMATION	AUTH. DEPTH
2	Drilling	847	470	23.50	20.0	Arapiean	7750 md

MUD DATA

WT	VIS.	WL	CK	PH	SAND	SOLIDS %	PV	YP	GELS	DEPTH	DATE/TIME	CHLORIDES	CALCIUM	MBT	SALT PPM
H2O															

BIT DATA

BIT NO.	SIZE	MFG.	TYPE	IADC CODE	SERIAL NO.	JETS (1/32nd" or TFA)	IN	OUT	FOOTAGE	HOURS	ROP	MTR RT+MTR	RPM	WOB	DULL CONDITION
1	17.500	STC	XRVC		MR5481	28 28 28	137		710	38.50	18.4	Y	30-120	40	
											#VALUE!				
											#DIV/0!				
											#DIV/0!				

HYDRAULICS

PUMP NO.	MANUFACTURER	LINER	STROKE LENGTH	GAL / STK	SPM	GPM	AV DP	AV DC	PUMP PRESS.	MTR DIFF PRESS.	HHP / IN ²	ECD	67 spm	76 spm	100 spm
1	National	6"	8.5	2.96	125	370			1000	150			1		
2	National	6"	8.5	2.96	125	370							2		
3	National	6"	8.5	2.96									3		

SLOW PUMP

DRILL STRING				GEOLOGIC				GENERAL INFO			
BOTTOMHOLE ASSEMBLY	LENGTH	O.D.	I.D.	FORMATION	MD	TVD	LITHOLOGY	RIG INFO			
17 1/2 BIT	1.50			Arapiean				Rig No	Unit 111		
Directional assembly	125.00			Twin Creek				Cell Nmen	918-645-6671		
6 5/8 HWDP	180.00			Navajo				Last BOP Test			
								Next BOP Test			
								Last Safety Meeting	7/1		
								Last BOP Drill			
								Last Operate Pipe Ra			
								Last Operate Blind Ra			
								Last Operate Annular			
Total BHA:	306.50							LAST CASING	NEXT CASING		
STRING WT.	BHA WT.	PU WT.	SO WT.	ROT. TORQUE	GRD. ELEVATION	GL TO KB	KB ELEVATION	INTERMEDIATE CSG			
40	40	40	40	100	5,839	17	5,856		20" @ 120' 13.375 @ 2500		

SURVEYS

MD	INCL	AZIMUTH	TVD	SECTION	N+ / S-	E+ / W-	DLS	TOOL	MD	INCL	AZIMUTH	TVD	SECTION	N+ / S-	E+ / W-	DLS	TOOL
538	7.20	236.20	537	27	-9	-27	2.60	MWD	720	11.30	215.50	716	55	-29	-47	2.00	MWD
812	12.30	218.80	806	73	-44	-58	1.00	MWD	903	13.90	220.20	895	93	-60	-72	1.70	MWD

DAILY ACTIVITY

FROM			LAST 24 HOURS:
0:00	14:30	14.50	Drill & Survey 377 to 635
14:30	15:00	0.50	Rig Service
15:00	0:00	9.00	Drill & Survey 635 to 847

Spud @ 09:00 6/30/05

This am. 08:00 drilling @ 985'

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Daily Total 24.00

COST DATA

Operator: Wolverine G&O Co of Utah, LLC

DAILY DRILLING REPORT

24 hrs - midnight to midnight

Operator: Wolverine Gas Co of Utah, LLC								
DATE	WELL	CONTRACTOR	COUNTY, STATE	SPUD DATE	API#	SUPERVISOR		
06/30/05	Wolverine Federal 19-1	Unit Rig #111	Sevier, UT		43-041-30033	G Urban		
DAYS F/SPUD	PRESENT OPERATIONS @ MIDNIGHT		TOTAL DEPTH	PROGRESS	DRILLING TIME	ROP	FORMATION	AUTH. DEPTH
1	Drilling		377	240	15.00	16.0	Arapiean	7750 md

MUD DATA

[illegible]

BIT DATA

BIT NO.	SIZE	MFG.	TYPE	IADC CODE	SERIAL NO.	JETS (1/32nd) or TFA			IN	OUT	FOOTAGE	HOURS	ROP	MTR	RPM RT+MTR	WOB	DULL CONDITION		
																	T	B	G
1	17.500	STC	XRVC		MR5481	28	28	28	137		240	15.00	16.0	Y	30-120	40			
													#VALUE!						
													#DIV/0!						
													#DIV/0!						

HYDRAULICS

PUMP NO.	MANUFACTURER	LINER	STROKE LENGTH	GAL / STK	SPM	GPM	AV DP	AV DC	PUMP PRESS.	MTR DIFF PRESS.	HHP / IN ²	ECD		67 spm	76 spm	100 spm
1	National	6"	8.5	2.96	125	370			1000	150			1			
2	National	6"	8.5	2.96	125	370							2			
3	National	6"	8.5	2.96									3			

SLOW PUMP

		67 spm	76 spm	100 spm
1				
2				
3				

DRILL STRING

BOTTOMHOLE ASSEMBLY		LENGTH	O.D.	I.D.
17 1/2 BIT		1.50		
Directional assmly		125.00		
6 6 5/8 HWDP		180.00		
Total BHA:		306.50		
STRINGS WT.	BHA WT.	POWT.	SO WT.	ROT TORQUE
40	40	40	40	100

GEOLOGIC

FORMATION	MD	TVD	LITHOLOGY
Arapahoe			
Twin Creek			
Navajo			
GAS DATA			
BOTTOMS UP TIME	BG GAS	CONN GAS	TRIP GAS
SHOWS			
GAS UNITS	FROM	TO	ROP (F/HR)
GRD. ELEVATION	GL TO KB	KB ELEVATION	INTERMEDIATE CSG
5,839	17	5,856	

GENERAL INFO

RIG INFO	
Rig No	Unit 111
Cell Number	918-645-6871
Last BOP Test	
Next BOP Test	
Last Safety Meeting	6/30
Last BOP Drill	
Last Operate Pipe Ram	
Last Operate Blind Ram	
Last Operate Annular	
LAST CASING	NEXT CASING
20" @ 120'	13.375 @ 2500'

SURVEYS

[illegible]

DAILY ACTIVITY

FROM			LAST 24 HOURS
0:00	1:00	1.00	RU, work on 3rd mud pump hookup
0:00	6:30	5.50	PU Directional ass.
6:30	9:00	2.50	Tag cement @ 111, drlg. 26' cement
9:00	0:00	15.00	Drill & Survey 137 to 377
			Spud @ 09:00 6/30/05
			This am. 08:00 drilling @ 530'
Daily Total	24.00		

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COST DATA

[illegible]

(918) 599-9400

Operator: Wolverine G&O Co of Utah, LLC

DAILY DRILLING REPORT

24 hrs - midnight to midnight

DATE	WELL	CONTRACTOR	COUNTY, STATE	SPUD DATE	API#	SUPERVISOR	
06/28/05	Wolverine Federal 19-1	Unit Rig #111	Sevier, UT		43-041-30033	G Urban	
DAYS F/ SPUD	PRESENT OPERATIONS @ MIDNIGHT	TOTAL DEPTH	PROGRESS	DRILLING TIME	ROP	FORMATION	AUTH. DEPTH
0	MIRU	120	0	0.00	#DIV/0!	Navajo	7750 md

MUD DATA

[illegible]

BIT DATA

BIT NO.	SIZE	MFG.	TYPE	IADC CODE	SERIAL NO.	JETS (1/32nd") or TFA	IN	OUT	FOOTAGE	HOURS	ROP	MTR	RPM RT+MTR	WOB	DULL CONDITION		
															T	B	G
											#VALUE!						
											#VALUE!						
											#DIV/0!						
											#DIV/0!						

HYDRAULICS

PUMP NO.	MANUFACTURER	LINER	STROKE LENGTH	GAL / STK	SPM	GPM	AV DP	AV DC	PUMP PRESS.	MTR DIFF PRESS.	HHP / IN ²	ECD	SLOW PUMP			
													67 spm	76 spm	100 spm	
1	National	6"	8.5	2.96									1			
2	National	6"	8.5	2.96									2			
3	National	6"	8.5	2.96									3			

SLOW PUMP

PUMP NO.	MANUFACTURER	LINER	STROKE LENGTH	GAL / STK	SPM	GPM	AV DP	AV DC	PUMP PRESS.	MTR DIFF PRESS.	HHP / IN ²	ECD		67 spm	78 spm	100 spm
1	National	6"	8.5	2.96									1			
2	National	6"	8.5	2.96									2			
3	National	6"	8.5	2.96									3			

DRILL STRING

[illegible]

GEOLOGIC

FORMATION	MD	TVD	LITHOLOGY
Arapiean			
Twin Creek			
Navajo			
GAS DATA			
BOTTOMS UP TIME	BG GAS	CONN GAS	TRIP GAS
SHOWS			
GAS UNITS	FROM	TO	ROP (FT/HR)
GRD. ELEVATION	GL TO KB	KB ELEVATION	INTERMEDIATE CSG
5,839	17	5,856	

GENERAL INFO

GENERAL INFO	
RIG INFO	
Rig No	Unit 111
Cell Nkrren	918-645-8671
Last BOP Test	
Next BOP Test	
Last Safety Meeting	6/26
Last BOP Drill	
Last Operate Pipe Ram	
Last Operate Blind Ra	
Last Operate Annular	
LAST CASING	NEXT CASING
20" @ 120'	13.375" @ 2500'

SURVEYS

[illegible]

DAILY ACTIVITY

[illegible]

COST DATA

[illegible]

[illegible]

(918) 599-9400

Operator: Wolverine G&O Co of Utah, LLC

DAILY DRILLING REPORT

24 hrs - midnight to midnight

DATE	WELL	CONTRACTOR	COUNTY, STATE	SPUD DATE	AP#	SUPERVISOR	
06/25/05	Wolverine Federal 19-1	Unit Rig #111	Sevier, UT		43-041-30033	DL Naylor	
DAYS F/ SPUD	PRESENT OPERATIONS @ MIDNIGHT	TOTAL DEPTH	PROGRESS	DRILLING TIME	ROP	FORMATION	AUTH. DEPTH
0	MIRU	120	0	0.00	#DIV/0!	Navajo	7750 md

MUD DATA

[illegible]

BIT DATA

BIT NO.	SIZE	MFG.	TYPE	IADC CODE	SERIAL NO.	JETS (1/32nd) or TFA	IN	OUT	FOOTAGE	HOURS	ROP	MTR	RPM RT+MTR	WOB	DULL CONDITION		
															T	B	G
											#VALUE!						
											#VALUE!						
											#DIV/0!						
											#DIV/0!						

HYDRAULICS

PUMP NO.	MANUFACTURER	LINER	STROKE LENGTH	GAL / STK	SPM	GPM	AV DP	AV DC	PUMP PRESS.	MTR DIFF PRESS.	HHP / IN ²	ECD		67 spm	76 spm	100 spm
1	National	6"	8.5	2.96									1			
2	National	6"	8.5	2.96									2			
3	National	6"	8.5	2.96									3			

SLOW PUMP

	67 spm	76 spm	100 spm
1			
2			
3			

DRILL STRING

[illegible]

GEOLOGIC

FORMATION	MD	TVD	LITHOLOGY
Arapiean			
Twin Creek			
Navajo			
GAS DATA			
BOTTOMS UP TIME	BG GAS	CONN GAS	TRIP GAS
SHOWS			
GAS UNITS	FROM	TO	ROP (FTHR)
GRD. ELEVATION	GL TO KB	KB ELEVATION	INTERMEDIATE CSG
5,839	17	5,856	

GENERAL INFO

RIG INFO	
Rig No	Unit 111
Cell Ncrren	918-645-6671
Last BOP Test	
Next BOP Test	
Last Safety Meeting	
Last BOP Drill	
Last Operate Pipe Ra	
Last Operate Blind Ra	
Last Operate Annular	
LAST CASING	NEXT CASING
20" @ 120'	13.375 @ 2500'

SURVEYS

[illegible]

DAILY ACTIVITY

[illegible]

COST DATA

EXACT Engineering, Inc.

www.exactengineering.com

415 S. Boston Ave., Suite 734, Tulsa, OK 74103 • (918) 599-9400 • (918) 599-9401 (fax)

Steven R. Hash, P.E.
Registered Professional Engineer
stevehash@exactengineering.com

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July 17, 2005

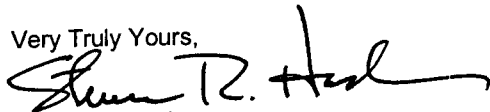
Mr. Dustin Doucet
Utah Division of Oil, Gas & Mining
1594 West North Temple, Suite 1210
Salt Lake City, UT 84114-5801

Re: Wolverine Federal 19-1 well
Sec 17 T23S R01W
Sevier Co., UT
API# 43-041-30033

Dear Mr. Doucet,

On behalf of Wolverine Gas and Oil Company of Utah, LLC, please find enclosed daily drilling reports for the subject well from July 3, 2005 through July 16, 2005. 13-3/8" surface casing was set at 2448' & cemented to surface on July 15. The BOP stack was nipped up and tested and we are presently preparing to drill out 12-1/4". We respectfully request that the enclosed information remain confidential.

Very Truly Yours,



Steven R. Hash
Consulting Engineer for Wolverine Gas and Oil Company of Utah, LLC

copy without enclosures via email to:
Wolverine Gas & Oil Co of Utah, LLC: Helene Bardolph
EXACT Engineering, Inc. well file

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Petroleum Engineering Consulting, Personnel & Jobsite Supervision
complete well design, construction & management, drilling, completion, production, pipelines, appraisals,
due diligence, acquisitions, procedures, temporary personnel and field supervision

Engineering & Supervision										EXACT Engineering, Inc.										(918) 599-9400															
Operator: Wolverine G&O Co of Utah, LLC										DAILY DRILLING REPORT										24 hrs - midnight to midnight															
DATE		WELL				CONTRACTOR				COUNTY, STATE		SPUD DATE		API#				SUPERVISOR																	
07/16/05		Wolverine Federal 19-1				Unit Rig #111				Sevier, UT		6/30/05		43-041-30033				George Urban																	
DAYS F/ SPUD		PRESENT OPERATIONS @ MIDNIGHT				TOTAL DEPTH		PROGRESS		DRILLING TIME		ROP		FORMATION		AUTH. DEPTH																			
17		Pump top out cement				2,448						#VALUE!		Arapiean		7750 md																			
MUD DATA																																			
WT		VIS.		WL		CK		PH		SAND		SOLIDS %		PV		YP		GELS		DEPTH		DATE/TIME		CHLORIDES		CALCIUM		MBT		% LCM					
10.0		37		n/c		2/32		8.0		0.50		8.00		6		23		13/20		2353		7/15/08:00		55,000		1840				20					
BIT DATA																																			
BIT NO.		SIZE		MFG.		TYPE		IADC CODE		SERIAL NO.		JETS (1/32nd" or TFA		IN		OUT		FOOTAGE		HOURS		ROP		MTR		RPM		WOB		DULL CONDITION					
3		17.500		HTC		X14-09				602085		28 28 28		2290		2448		158		63.50		2.5		Y		30-120		40		3 4 1					
																						#DIV/0!													
																						#DIV/0!													
																						#DIV/0!													
HYDRAULICS																		SLOW PUMP																	
PUMP NO.		MANUFACTURER		LINER		STROKE LENGTH		GAL / STK		SPM		GPM		AV DP		AV DC		PUMP PRESS.		MTR DIFF PRESS.		HHP / IN ²		ECD				67 spm		76 spm		100 spm			
1		National		6"		8.5		2.96		102		300						800		100						1									
2		National		6"		8.5		2.96		102		300														2									
3		National		6"		8.5		2.96		102		300														3									
DRILL STRING										GEOLOGIC										GENERAL INFO															
BOTTOMHOLE ASSEMBLY				LENGTH		O.D.		I.D.		FORMATION		MD		TVD		LITHOLOGY		RIG INFO																	
										Arapiean								Rig No				Unit 111													
										Twin Creek								Cell Narren				918-645-6671													
										Navajo								Last BOP Test																	
										BOTTOMS UP TIME		BG GAS		CONN GAS		TRIP GAS		Next BOP Test																	
																		Last Safety Meeting				7/16													
										GAS UNITS		FROM		SHOWS		TO		ROP (FY/HR)		Last BOP Drill															
																				Last Operate Pipe Ran															
																				Last Operate Blind Ran															
Total BHA:				0.00																Last Operate Annular															
STRING WT.		BHA WT.		PU WT.		SO WT.		ROT. TORQUE		GRD. ELEVATION		GL TO KB		KB ELEVATION		INTERMEDIATE CSG		LAST CASING				NEXT CASING													
										5,839		17		5,856				13 3/8 @ 2448																	
SURVEYS																																			
MD		INCL.		AZIMUTH		TVD		SECTION		N+ / S-		E+ / W-		DLS		TOOL		MD		INCL.		AZIMUTH		TVD		SECTION		N+ / S-		E+ / W-		DLS		TOOL	
																MWD																		MWD	
																MWD																		MWD	
DAILY ACTIVITY																																			
FROM						LAST 24 HOURS:																													
0:00		1:00		1.00		Rig down Halliburton cementers																													
1:00		6:00		5.00		R/D Conductor and cut off 13 3/8 casing.																													

Engineering & Supervision		EXACT Engineering, Inc.				(918) 599-9400													
Operator: Wolverine G&O Co of Utah, LLC		DAILY DRILLING REPORT				24 hrs - midnight to midnight													
DATE	WELL	CONTRACTOR		COUNTY, STATE	SPUD DATE	API#		SUPERVISOR											
07/15/05	Wolverine Federal 19-1	Unit Rig #111		Sevier, UT	6/30/05	43-041-30033		George Urban											
DAYS F/SPUD	PRESENT OPERATIONS @ MIDNIGHT		TOTAL DEPTH	PROGRESS	DRILLING TIME	ROP	FORMATION	AUTH. DEPTH											
16	Pump top out cement		2,448			#VALUE!	Arapiean	7750 md											
MUD DATA																			
WT	VIS.	WL	CK	PH	SAND	SOLIDS %	PV	YP	GELS										
10.0	37	n/c	2/32	8.0	0.50	8.00	6	23	13/20										
DEPTH	DATE/TIME	CHLORIDES	CALCIUM	MBT	% LCM														
2353	7/15/08:00	55,000	1840		20														
BIT DATA																			
BIT NO.	SIZE	MFG.	TYPE	IADC CODE	SERIAL NO.	JETS (1/32nd" or TFA)			IN	OUT	FOOTAGE	HOURS	ROP	MTR	RPM	WOB	DULL CONDITION		
3	17.500	HTC	X14-09		602085	28	28	28	2290	2448	158	63.50	2.5	Y	30-120	40	T	B	G
													#DIV/0!						
													#DIV/0!						
													#DIV/0!						
HYDRAULICS										SLOW PUMP									
PUMP NO.	MANUFACTURER	LINER	STROKE LENGTH	GAL / STK	SPM	GPM	AV DP	AV DC	PUMP PRESS.	MTR DIFF PRESS.	HHP / IN ²	ECD			67 spm	76 spm	100 spm		
1	National	6"	8.5	2.96	102	300			800	100					1				
2	National	6"	8.5	2.96	102	300									2				
3	National	6"	8.5	2.96	102	300									3				
DRILL STRING				GEOLOGIC				GENERAL INFO											
BOTTOMHOLE ASSEMBLY		LENGTH	O.D.	I.D.	FORMATION	MD	TVD	LITHOLOGY	RIG INFO										
17 1/2 BIT		1.50			Arapiean				Rig No Unit 111										
Directional assbly		125.00			Twin Creek				Cell Nurren 918-645-6671										
6 6 5/8 HWDP		180.00			Navajo				Last BOP Test										
18 5" SWDP		545.00			GAS DATA			Next BOP Test											
Jar		32.00			BOTTOMS UP TIME	BG GAS	CONN GAS	TRIP GAS	Last Safety Meeting 7/13										
4 5" HWDP		120.00			SHOWS			Last BOP Drill											
					GAS UNITS	FROM	TO	ROP (FT/HR)	Last Operate Pipe Rar										
									Last Operate Blind Ra										
Total BHA:		1,003.50							Last Operate Annular										
STRING WT.	BHA WT.	PU WT.	SO WT.	ROT. TORQUE	GRD. ELEVATION	GL TO KB	KB ELEVATION	INTERMEDIATE CSG	LAST CASING		NEXT CASING								
105	89	120	95	200	5,839	17	5,856		20" @ 120'		13.375 @ 2500								
SURVEYS																			
MD	INCL.	AZIMUTH	TVD	SECTION	N+ / S-	E+ / W-	DLS	TOOL	MD	INCL.	AZIMUTH	TVD	SECTION	N+ / S-	E+ / W-	DLS	TOOL		
2,315	37.40	232.90	2189	630	-365	-514	2.50	MWD									MWD		
2,380	39.00	232.90	2240	670	-389	-546	2.50	MWD									MWD		
DAILY ACTIVITY																			
FROM			LAST 24 HOURS:																
0:00	1:30	1.50	Wash & ream 1490 to 1530, RIH to btm.																
1:30	2:30	1.00	Circ. & condition, pump sweep																
2:30	8:00	5.50	POOH, LD dir ass.																
8:00	14:30	6.50	RU & run 55 jts. 2451' 61# 13 3/8 csng. Set @ 2448																
14:30	17:30	3.00	Circ. Csng. Rig down casers																
17:30	0:00	6.50	Rig up Haliburton pump cement																
			Full returns while running casing, full returns when started circ. Lost 100% returns after 1 full circulation.																
			Pumped 675 sks. CBM light w/ .25#/sk flocele, 5#/sk gilsonite, 3#/sk granulite.10.5ppg, 4.12 yield lead																
			Pumped 475 sks. Type V 1% CaCl, .25#/sk flocele. Tail NO RETURNS.																
			Pumped 200 sks. G neat w/ 3% CaCl. Returns After 36 bbl. 3 bbl to pit. Cement stayed @ surface.																
			This am cut off & weld head.																
Daily Total	24.00																		
COST DATA																			

CONFIDENTIAL

24 hrs - midnight to midnight

COST DATA

CONFIDENTIAL

24 hrs - midnight to midnight

COST DATA

CONFIDENTIAL

24 hrs - midnight to midnight

COST DATA

CONFIDENTIAL

Operator: Wolverine G&O Co of Utah, LLC

DAILY DRILLING REPORT

24 hrs - midnight to midnight

DATE	WELL	CONTRACTOR		COUNTY, STATE	SPUD DATE	API#		SUPERVISOR
07/11/05	Wolverine Federal 19-1	Unit Rig #111		Sevier, UT	6/30/05	43-041-30033		DL Naylor
DAYS F/ SPUD	PRESENT OPERATIONS @ MIDNIGHT		TOTAL DEPTH	PROGRESS	DRILLING TIME	ROP	FORMATION	AUTH. DEPTH
12	RIH		1,945	55	17.50	3.1	Arapiean	7750 md

MUD DATA

WT	VIS.	WL	CK	PH	SAND	SOLIDS %	PV	YP	GELS	DEPTH	DATE/TIME	CHLORIDES	CALCIUM	MBT	% LCM
9.2	35	n/c	1/32	8.0	0.50	5.50	4	19	8/12	1918	7/11/08:00	16,500	1480		35

BIT DATA

BIT NO.	SIZE	MFG.	TYPE	IADC CODE	SERIAL NO.	JET'S (1/32nd") or TFA			IN	OUT	FOOTAGE	HOURS	ROP	MTR	RPM RT+MTR	WOB	DULL CONDITION		
						T	B	G											
2	17.500	STC	MG55		MJ3820	28	28	28	1680	1945	265	67.00	4.0	Y	30-120	40			
													#DIV/0!						
													#DIV/0!						
													#DIV/0!						

HYDRAULICS

PUMP NO.	MANUFACTURER	LINER	STROKE LENGTH	GAL / STK	SPM	GPM	AV DP	AV DC	PUMP PRESS.	MTR DIFF PRESS.	HHP / IN ²	ECD	FLOW (gpm)			
														67 spm	76 spm	100 spm
1	National	6"	8.5	2.96	102	300			800	100			1			
2	National	6"	8.5	2.96	102	300							2			
3	National	6"	8.5	2.96	102	300							3			

SLOW PUMP

PUMP NO.	MANUFACTURER	LINER	STROKE LENGTH	GAL / STK	SPM	GPM	AV DP	AV DC	PUMP PRESS.	MTR DIFF PRESS.	HHP / IN ²	ECD	Flow Rate (gpm)			
													67 spm	76 spm	100 spm	
1	National	6"	8.5	2.96	102	300			800	100			1			
2	National	6"	8.5	2.96	102	300							2			
3	National	6"	8.5	2.96	102	300							3			

DRILL STRING

BOTTOMHOLE ASSEMBLY		LENGTH	O.D.	I.D.	FORMATION	MD	TVD	LITHOLOGY	GENERAL INFO		
									RIG INFO		
17 1/2 BIT		1.50			Arapiean				Rig No	Unit 111	
Directional assmblly		125.00			Twin Creek				Cell Nrren	918-645-6671	
6 6 5/8 HWDP		180.00			Navajo				Last BOP Test		
18 5" SWDP		545.00			BOTTOMS UP TIME	BG GAS	GAS DATA		Next BOP Test		
Jar		32.00					CONN GAS				TRIP GAS
4 5" HWDP		120.00					SHOWS				
							GAS UNITS				FROM
									Last BOP Drill		
									Last Operate Pipe Ra		
									Last Operate Blind Ra		
Total BHA:		1,003.50							Last Operate Annular		
STRING WT.	BHA WT.	PU WT.	SO WT.	ROT. TORQUE	GRD. ELEVATION	GL TO KB	KB ELEVATION	INTERMEDIATE CSG	LAST CASING	NEXT CASING	
94	89	100	90	150	5,839	17	5,856		20" @ 120'	13.375 @ 2500'	

GEOLOGIC

GENERAL INFO

SURVEYS

MD	INCL.	AZIMUTH	TVD	SECTION	N+ / S-	E+ / W-	DLS	TOOL
1,747	23.50	236.60	1698	348	-199	-286	4.00	MWD
1,842	24.80	237.80	1785	387	-220	-319	1.30	MWD

DAILY ACTIVITY

[illegible]

Operator: Wolverine G&O Co of Utah, LLC

DAILY DRILLING REPORT

24 hrs - midnight to midnight

DATE	WELL	CONTRACTOR		COUNTY, STATE	SPUD DATE	API#		SUPERVISOR
07/10/05	Wolverine Federal 19-1	Unit Rig #111		Sevier, UT	6/30/05	43-041-30033		DL Naylor
DAYS F/ SPUD	PRESENT OPERATIONS @ MIDNIGHT		TOTAL DEPTH	PROGRESS	DRILLING TIME	ROP	FORMATION	AUTH. DEPTH
11	Drilling		1,890	70	23.50	3.0	Arapiean	7750 md

MUD DATA

WT	VIS.	WL	CK	PH	SAND	SOLIDS %	PV	YP	GELS	DEPTH	DATE/TIME	CHLORIDES	CALCIUM	MBT	% LCM
8.9	48	n/c	1/32	8.0	tr	3.75	7	23	15/27	1841	7/10/08:00	9,000	1280		35

BIT DATA

BIT NO.	SIZE	MFG.	TYPE	IADC CODE	SERIAL NO.	JETS (1/32nd") or TFA			IN	OUT	FOOTAGE	HOURS	ROP	MTR	RPM RT+MTR	WOB	DULL CONDITION		
						T	B	G											
2	17.500	STC	MG55		MJ3820	28	28	28	1680		210	49.50	4.2	Y	30-120	40			
													#DIV/0!						
													#DIV/0!						
													#DIV/0!						

HYDRAULICS

PUMP NO.	MANUFACTURER	LINER	STROKE LENGTH	GAL / STK	SPM	GPM	AV DP	AV DC	PUMP PRESS.	MTR DIFF PRESS.	HHP / IN ²	ECD		67 spm	76 spm	100 spm
1	National	6"	8.5	2.96	102	300			800	100			1			
2	National	6"	8.5	2.96	102	300							2			
3	National	6"	8.5	2.96	102								3			

SLOW PUMP

		67 spm	76 spm	100 spm
	1			
	2			
	3			

DRILL STRING

BOTTOMHOLE ASSEMBLY		LENGTH	O.D.	I.D.
17 1/2 BIT		1.50		
Directional assmby		125.00		
6 6 5/8 HWDP		180.00		
18 5" SWDP		545.00		
Jar		32.00		
4 5" HWDP		120.00		
Total BHA:		1,003.50		
STRING WT.	BHA WT.	PU WT.	SO WT.	ROT. TORQUE
94	89	100	90	150

GEOLOGIC

FORMATION	MD	TVD	LITHOLOGY
Arapiean			
Twin Creek			
Navajo			
GAS DATA			
BOTTOMS UP TIME	BG GAS	CONN GAS	TRIP GAS
SHOWS			
GAS UNITS	FROM	TO	ROP' (FT/HR)
GRD. ELEVATION	GL TO KB	KB ELEVATION	INTERMEDIATE CSG
5,839	17	5,856	

GENERAL INFO

RIG INFO	
Rig No	Unit 111
Cell Ncrren	918-645-6671
Last BOP Test	
Next BOP Test	
Last Safety Meeting	7/9
Last BOP Drill	
Last Operate Pipe Ram	
Last Operate Blind Ra	
Last Operate Annular	
LAST CASING	NEXT CASING
20" @ 120'	13.375 @ 2500

SURVEYS

MD	INCL.	AZIMUTH	TVD	SECTION	N+ / S-	E+ / W-	DLS	TOOL
1,747	23.50	236.60	1698	348	-199	-286	4.00	MWD
1,842	24.80	237.80	1785	387	-220	-319	1.30	MWD

DAILY ACTIVITY

[illegible]

24 hrs - midnight to midnight

[illegible]

24 hrs - midnight to midnight

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Operator: Wolverine G&O Co of Utah, LLC

DAILY DRILLING REPORT

24 hrs - midnight to midnight

DATE	WELL	CONTRACTOR	COUNTY, STATE	SPUD DATE	API#	SUPERVISOR	
07/07/05	Wolverine Federal 19-1	Unit Rig #111	Sevier, UT	6/30/05	43-041-30033	DL Naylor	
DAYS F/ SPUD	PRESENT OPERATIONS @ MIDNIGHT	TOTAL DEPTH	PROGRESS	DRILLING TIME	ROP	FORMATION	AUTH. DEPTH
8	RIH	1,819			#VALUE!	Arapiean	7750 md

MUD DATA

[illegible]

BIT DATA

BIT NO.	SIZE	MFG.	TYPE	IADC CODE	SERIAL NO.	JETS (1/32nd) or TFA			IN	OUT	FOOTAGE	HOURS	ROP	MTR	RPM RT+MTR	WOB	DULL CONDITION			
																	T	B	G	
1	17.500	STC	XRVC		MR5481	28	28	28	137	1680	1543	98.50	15.7							
2	17.500	STC	MG55		MJ3820	28	28	28	1680	1819	139	26.00	5.3	Y	30-120	40	6	6	1	
													#DIV/0!							
													#DIV/0!							

HYDRAULICS

PUMP NO.	MANUFACTURER	LINER	STROKE LENGTH	GAL / STK	SPM	GPM	AV DP	AV DC	PUMP PRESS.	MTR DIFF PRESS.	HHP / IN ²	ECD	SLOW PUMP			
														67 spm	76 spm	100 spm
1	National	6"	8.5	2.96	102	300			800	100			1			
2	National	6"	8.5	2.96	102	300							2			
3	National	6"	8.5	2.96	102								3			

SLOW PUMP

		67 spm	76 spm	100 spm
1				
2				
3				

DRILL STRING

BOTTOMHOLE ASSEMBLY		LENGTH	O.D.	I.D.
17 1/2 BIT		1.50		
Directional assmby		125.00		
6 6 5/8 HWDP		180.00		
18 5" SWDP		545.00		
Jar		32.00		
4 5" HWDP		120.00		
Total BHA:		1,003.50		
STRING WT.	BHA WT.	PU WT.	SO WT.	ROT. TORQUE
94	89	100	90	150

GEOLOGIC

FORMATION	MD	TVD	LITHOLOGY
Arapiean			
Twin Creek			
Navajo			
GAS DATA			
BOTTOMS UP TIME	BG GAS	CONN GAS	TRIP GAS
SHOWS			
GAS UNITS	FROM	TO	ROP (FT/HR)
GRD. ELEVATION	GL TO KB	KB ELEVATION	INTERMEDIATE CSG
5,839	17	5,856	

GENERAL INFO

GENERAL INFO	
RIG INFO	
Rig No	Unit 111
Cell Nrren	918-645-6671
Last BOP Test	
Next BOP Test	
Last Safety Meeting	7/3
Last BOP Drill	
Last Operate Pipe Ram	
Last Operate Blind Ra	
Last Operate Annular	
LAST CASING	NEXT CASING
20" @ 120'	13 3/4" @ 250'

SURVEYS

[illegible]

DAILY ACTIVITY

[illegible]

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24 hrs - midnight to midnight

DAILY ACTIVITY			
FROM			LAST 24 HOURS:
0:00	0:30	0.50	Drill & survey 1780 to 1785 / No returns
0:30	2:30	2.00	Work tight hole.
2:30	8:30	6.00	Drill & survey 1785 to 1819 partial to no returns
8:30	12:00	3.50	Build volume
12:00	14:00	2.00	POOH to LD MWD & directional ass.
14:00	16:30	2.50	RIH open ended
16:30	18:00	1.50	Rig up mix & pump 90 bbls. Slurry alcosorb.
18:00	20:00	2.00	POOH
20:00	21:00	1.00	PU directional ass.
21:00	23:00	2.00	RIH
23:00	0:00	1.00	Tag firm @ 1664 good returns, wash & ream, 1664 to 1680
			This am washing & 1775 no returns
Daily Total		24.00	

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24 hrs - midnight to midnight

DAILY ACTIVITY			
FROM			LAST 24 HOURS:
0:00	1:00	1.00	Change bit & motor
1:00	2:30	1.50	RIH
2:30	4:00	1.50	Wash & ream 100' to btm.
4:00	8:30	4.50	Drill & survey 1680 to 1722
8:30	9:00	0.50	Rig service
9:00	0:00	15.00	Drill & survey 1722 to 1780
			Lost partial returns @ 1710' 1663' TVD, lost full returns @ 1730' Intermitten returns with LCM sweeps continuing to drill w/ partial returns, to get past ruble zone.
			This am. 06:00 drilling @ 1800'
Daily Total		24.00	

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Operator: Wolverine G&O Co of Utah, LLC

DAILY DRILLING REPORT

24 hrs - midnight to midnight

DATE	WELL	CONTRACTOR		COUNTY, STATE	SPUD DATE	API#		SUPERVISOR
07/04/05	Wolverine Federal 19-1	Unit Rig #111		Sevier, UT	6/30/05	43-041-30033		DL Naylor
DAYS F/ SPUD	PRESENT OPERATIONS @ MIDNIGHT		TOTAL DEPTH	PROGRESS	DRILLING TIME	ROP	FORMATION	AUTH. DEPTH
5	Drilling		1,680	180	13.00	13.8	Arapiean	7750 md

MUD DATA

WT	VIS	WL	CK	PH	SAND	SOLIDS %	PV	YP	GELS	DEPTH	DATE/TIME	CHLORIDES	CALCIUM	MBT	SALT PPM
9.6	34	n/c	2/32	9.8	0.50	8.25	4	16	13/19	1300	7/4/08:00	15,000	1620		24,750

BIT DATA

BIT NO.	SIZE	MFG.	TYPE	IADC CODE	SERIAL NO.	JETS (1/32nd) or TFA			IN	OUT	FOOTAGE	HOURS	ROP	MTR	RPM RT+MTR	WOB	DULL CONDITION			
																	T	B	G	
1	17.500	STC	XRVC		MR5481	28	28	28	137			1543	98.50		Y	30-120	40			

HYDRAULICS

PUMP NO.	MANUFACTURER	LINER	STROKE LENGTH	GAL / STK	SPM	GPM	AV DP	AV DC	PUMP PRESS.	MTR DIFF PRESS.	HHP / IN ²	ECD	FLOW (gpm)			
														67 spm	76 spm	100 spm
1	National	6"	8.5	2.96	102	300			1600	200			1			
2	National	6"	8.5	2.96	102	300							2			
3	National	6"	8.5	2.96	102	300							3			

SLOW PUMP

		67 spm	76 spm	100 spm
1				
2				
3				

DRILL STRING

BOTTOMHOLE ASSEMBLY		LENGTH	O.D.	I.D.
17 1/2 BIT		1.50		
Directional assmblly		125.00		
6 6 5/8 HWDP		180.00		
18 5" SWDP		545.00		
Jar		32.00		
4 5" HWDP		120.00		
Total BHA:		1,003.50		
STRING WT.	BHA WT.	PU WT.	SO WT.	ROT. TORQUE
94	89	100	90	150

GEOLOGIC

FORMATION	MD	TVD	LITHOLOGY
Arapiean			
Twin Creek			
Navajo			
GAS DATA			
BOTTOMS UP TIME	BG GAS	CONN GAS	TRIP GAS
SHOWS			
GAS UNITS	FROM	TO	ROP (FT/HR)
GRD. ELEVATION	GL TO KB	KB ELEVATION	INTERMEDIATE CSG
5,839	17	5,856	

GENERAL INFO

RIG INFO	
Rig No	Unit 111
Cell Nrren	918-645-6671
Last BOP Test	
Next BOP Test	
Last Safety Meeting	7/3
Last BOP Drill	
Last Operate Pipe Ram	
Last Operate Blind Ram	
Last Operate Annular	
LAST CASING	NEXT CASING
20" @ 120'	13.375 @ 2500'

SURVEYS

[illegible]

DAILY ACTIVITY

DATE: 10/1/2017			
FROM			LAST 24 HOURS:
0:00	13:00	13.00	Drill & Survey 1500 to 1680
13:00	16:00	3.00	Repair goose neck on std. pipe
16:00	22:00	6.00	POOH for excessive pressure
22:00	0:00	2.00	Change bit & motor

This am. 06:00 drilling @ 1700'

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Daily Total	24.00
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24 hrs - midnight to midnight

[illegible]

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EXACT Engineering, Inc.**www.exactengineering.com**

415 S. Boston Ave., Suite 734, Tulsa, OK 74103 • (918) 599-9400 • (918) 599-9401 (fax)

Steven R. Hash, P.E.
Registered Professional Engineer
stevehash@exactengineering.com

CONFIDENTIAL PLEASE!

August 1 2005

✓ Mr. Dustin Doucet
Utah Division of Oil, Gas & Mining
1594 West North Temple, Suite 1210
Salt Lake City, UT 84114-5801

Re: Wolverine Federal 19-1 well
Sec 17 T23S R01W
Sevier Co., UT
API# 43-041-30033

RECEIVED

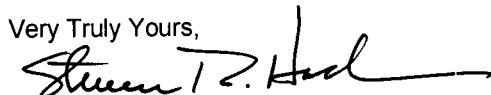
AUG 04 2005

DIV. OF OIL, GAS & MINING

Dear Mr. Doucet,

On behalf of Wolverine Gas and Oil Company of Utah, LLC, please find enclosed daily drilling reports for the subject well from July 17, 2005 through July 31, 2005. We are presently running 9-5/8" protective casing at 7044' and expect to reach total depth within the next week. We respectfully request that the enclosed information remain confidential.

Very Truly Yours,



Steven R. Hash
Consulting Engineer for Wolverine Gas and Oil Company of Utah, LLC

copy without enclosures via email to:

Wolverine Gas & Oil Co of Utah, LLC: Helene Bardolph
EXACT Engineering, Inc. well file

Petroleum Engineering Consulting, Personnel & Jobsite Supervision

complete well design, construction & management, drilling, completion, production, pipelines, appraisals,
due diligence, acquisitions, procedures, temporary personnel and field supervision

24 hrs - midnight to midnight

DATE	WELL	CONTRACTOR	COUNTY, STATE	SPUD DATE	AP #	SEC. LOCATION	
07/31/05	Wolverine Federal 19-1	Unit Rig #111	Sevier, UT	6/30/05	43-041-30033	George Urban	
DAYS F/ SPUD	PRESENT OPERATIONS @ MIDNIGHT	TOTAL DEPTH	PROGRESS	DRILLING TIME	ROP	FORMATION	AUTH. DEPTH
32	Run 9 5/8 casing	7,065	21	1.00	21.0	Arapiean	7750 md

WT	VIS	WL	CK	PH	SAND	SOLIDS %	PV	YP	GELS	DEPTH	DATE/TIME	CHLORIDES	CALCIUM	MBT	SALT PPM
10.4	35	n/c	2/32	8.5	0.50	4.75	6	14	8/12	7065	7/31/08:00	168,000	3420		277,200

BIT DATA																			
BIT NO.	SIZE	MFG.	TYPE	IADC CODE	SERIAL NO.	JETS (1/32nd") or TFA			IN	OUT	FOOTAGE	HOURS	ROP	MTR	RPM RT+MTR	WOB	DULL CONDITION		
						T	B	G											
7RR	12.25	Reed	HP53AKPR	537	PB4483	24	24	24	6499	7065	566	25.50	22.2	Y	30-120	45	4	2	1
													#DIV/0!						

PUMP NO.	MANUFACTURER	LINER	STROKE LENGTH	GAL / STK	SPM	GPM	AV DP	AV DC	PUMP PRESS.	MTR DIFF PRESS.	HHP / IN ²	ECD		68 spm	74 spm	73 spm
1	National	6"	8.5	2.96	125	370			1800	150			1			
2	National	6"	8.5	2.96	125	370							2	200		
3	National	6"	8.5	2.96	125	370							3			250

DRILL STRING					FORMATION				MD		TVD		LITHOLOGY		RIG INFO	
BOTTOMHOLE ASSEMBLY	LENGTH	O.D.	I.D.		FORMATION	MD		TVD		LITHOLOGY					Rig No	Unit 111
12 1/4 bit	1.50				Arapiean										Cell Narren	918-645-667
Directional assmbly	129.03				Twin Creek										Last BOP Test	7/17
	0				Navajo										Next BOP Test	8/17
18 5" SWDP	545.00				BOTTOMS UP TIME	BG GAS		GAS DATA		CONN GAS		TRIP GAS			Last Safety Meeting	7/31
Jar	32.00					3-12									Last BOP Drill	7/30
4 5" HWDP	120.00				GAS UNITS	FROM		SHOWS		TO		ROP (FT/HR)			Last Operate Pipe Ran	7/27
Casing rollers	37.97														Last Operate Blind Ra	7/27
															Last Operate Annular	7/27
Total BHA:	865.50														LAST CASING	NEXT CASING
STRING WT.	BHA WT.	PU WT.	SO WT.	ROT. TORQUE	GRD. ELEVATION	GL TO KB		KB ELEVATION		INTERMEDIATE CSG					13 3/8 @ 2448	
160	89	275	160	375	5,839	17		5,856								

[illegible][illegible]

Engineering & Supervision										EXACT Engineering, Inc.										(918) 599-9400																	
Operator: Wolverine G&O Co of Utah, LLC										DAILY DRILLING REPORT										24 hrs - midnight to midnight																	
DATE		WELL		CONTRACTOR				COUNTY, STATE		SPUD DATE		API#				SUPERVISOR																					
07/30/05		Wolverine Federal 19-1		Unit Rig #111				Sevier, UT		6/30/05		43-041-30033				George Urban																					
DAYS F/ SPUD		PRESENT OPERATIONS @ MIDNIGHT				TOTAL DEPTH		PROGRESS		DRILLING TIME		ROP		FORMATION		AUTH. DEPTH																					
31		Drilling				7,044		441		21.00		21.0		Arapiean		7750 md																					
MUD DATA																																					
WT		VIS.		WL		CK		PH		SAND		SOLIDS %		PV		YP		GELS		DEPTH		DATE/TIME		CHLORIDES		CALCIUM		MBT		SALT PPM							
10.2		33		n/c		2/32		9.0		0.50		4.25		6		10		5/9		6499		7/29/08:00		158,000		3320				260,700							
BIT DATA																																					
BIT NO.		SIZE		MFG.		TYPE		IADC CODE		SERIAL NO.		JETS (1/32nd") or TFA		IN		OUT		FOOTAGE		HOURS		ROP		MTR		RPM RT+MTR		WOB		DULL CONDITION							
7RR		12.25		Reed		HP53AKPR		537		PB4483		24 24 24		6499				545		24.50		22.2		Y		30-120		0									
																						#DIV/0!															
HYDRAULICS																		SLOW PUMP																			
PUMP NO.		MANUFACTURER		LINER		STROKE LENGTH		GAL / STK		SPM		GPM		AV DP		AV DC		PUMP PRESS.		MTR DIFF PRESS.		HHP / IN ²		ECD				68 spm		74 spm		73 spm					
1		National		6"		8.5		2.96		125		370						1800		150						1											
2		National		6"		8.5		2.96		125		370														2		200									
3		National		6"		8.5		2.96		125		370														3				250							
DRILL STRING																		GEOLOGIC										GENERAL INFO									
BOTTOMHOLE ASSEMBLY				LENGTH				O.D.				I.D.				FORMATION				MD				TVD				LITHOLOGY				RIG INFO					
12 1/4 bit				1.50												Arapiean												Rig No Unit 111									
Directional assmblly				129.03												Twin Creek												Cell Narren 918-645-6671									
				0												Navajo												Last BOP Test 7/17									
18 5" SWDP				545.00												GAS DATA												Next BOP Test 8/17									
Jar				32.00												BOTTOMS UP TIME				BG GAS				CONN GAS				TRIP GAS				Last Safety Meeting 7/30					
4 5" HWDP				120.00																3-12												Last BOP Drill 7/30					
Casing rollers				37.97												GAS UNITS				FROM				TO				ROP (F/HR)				Last Operate Pipe Rar 7/27					
																																Last Operate Blind Ra 7/27					
Total BHA:				865.50																												Last Operate Annular 7/27					
STRING WT.		BHA WT.		PU WT.		SO WT.		ROY. TORQUE		GRD. ELEVATION		GL TO KB		KB ELEVATION		INTERMEDIATE CSG		LAST CASING						NEXT CASING													
160		89		275		160		375		5,839		17		5,856				13 3/8 @ 2448																			
SURVEYS																																					
MD		INCL.		AZIMUTH		TVD		SECTION		N+ / S-		E+ / W-		DLS		TOOL		MD		INCL.		AZIMUTH		TVD		SECTION		N+ / S-		E+ / W-		DLS		TOOL			
6,735		22.70		232.00		5638		3358		-2033		-2673		1.34		MWD		6,692		19.90		234.70		5850		3440		-2081		-2739		0.91		MWD			
6,861		20.80		235.20		5755		3405		-2061		-2710		1.78		MWD																		MWD			
DAILY ACTIVITY																																					
FROM						LAST 24 HOURS:																															
0:00		14:30		14.50		Drill & survey 6603 to 6918																															

DAILY DRILLING REPORT

24 hrs - midnight to midnight

Operator: Wolverine G&O Co of Utah, LLC

DATE	WELL	CONTRACTOR	COUNTY, STATE	SPUD DATE			George Urban
07/29/05	Wolverine Federal 19-1	Unit Rig #111	Sevier, UT	6/30/05	43-041-30033		
DAYS F/ SPUD	PRESENT OPERATIONS @ MIDNIGHT	TOTAL DEPTH	PROGRESS	DRILLING TIME	ROP	FORMATION	AUTH. DEPTH
30	Drilling	6,603	102	3.50	29.1	Arapiean	7750 md

MUD DATA

MOD DATA															
WT	VIS.	WL	CK	PH	SAND	SOLIDS %	PV	YP	GELS	DEPTH	DATE/TIME	CHLORIDES	CALCIUM	MBT	SALT PPM
10.2	33	n/c	2/32	9.0	0.50	4.25	6	10	5/9	6499	7/29/08:00	158,000	3320		260,700

BIT DATA

BIT DATA															DULL CONDITION				
BIT NO.	SIZE	MFG.	TYPE	IADC CODE	SERIAL NO.	JETS (1/32nd") or TFA			IN	OUT	FOOTAGE	HOURS	ROP	MTR	RPM RT+MTR	WOB	T	B	G
7RR	12.25	Reed	HP53AKPR	537	PB4483	24	24	24	6499		102	3.50	29.1	Y	30-120	0			
													#DIV/0!						

HYDRAULICS

HYDRAULICS													GENERAL INFO			
PUMP NO.	MANUFACTURER	LINER	STROKE LENGTH	GAL / STK	SPM	GPM	AV DP	AV DC	PUMP PRESS.	MTR DIFF PRESS.	HHP / IN ²	ECD	68 spm	74 spm	73 spm	
1	National	6"	8.5	2.96	125	370			1800	150			1			
2	National	6"	8.5	2.96	125	370							2	200		
3	National	6"	8.5	2.96	125	370							3			250

SLOW PUMP

HYDRAULICS													SLOW FORM			
PUMP NO.	MANUFACTURER	LINER	STROKE LENGTH	GAL / STK	SPM	GPM	AV DP	AV DC	PUMP PRESS.	MTR DIFF PRESS.	HHP / IN ²	ECD		68 spm	74 spm	73 spm
1	National	6"	8.5	2.96	125	370			1800	150			1			
2	National	6"	8.5	2.96	125	370							2	200		
3	National	6"	8.5	2.96	125	370							3			250

DRILL STRING

DRILL STRING					RIG INFO				
BOTTOMHOLE ASSEMBLY	LENGTH	O.D.	I.D.	FORMATION	MD	TYD	LITHOLOGY	Rig No	Unit 111
12 1/4 bit	1.50			Arapiean				Cell Narren	918-645-667
Directional assmblly	129.03			Twin Creek				Last BOP Test	7/17
	o			Navajo				Next BOP Test	8/17
18 5" SWDP	545.00			BOTTOMS UP TIME	BG GAS	GAS DATA CONN GAS	TRIP GAS	Last Safety Meeting	7/26
Jar	32.00				3-12			Last BOP Drill	7/26
4 5" HWDP	120.00			GAS UNITS	FROM	SHOWS TO	ROP (FT/HR)	Last Operate Pipe Rar	7/27
Casing rollers	37.97							Last Operate Blind Ra	7/27
								Last Operate Annular	7/27
Total BHA:	865.50							LAST CASING	NEXT CASING
STRING WT.	BHA WT.	PU WT.	SO WT.	ROT. TORQUE	GRD. ELEVATION	GL TO KB	KB ELEVATION	INTERMEDIATE CSG	
160	89	275	160	375	5,839	17	5,856		

GEOLOGIC

GENERAL INFO

SURVEYS

[illegible]

DAILY ACTIVITY

DAILY ACTIVITY			
FROM			LAST 24 HOURS:
0:00	4:30	4.50	RIH w/ bit to make clean out run
4:30	9:30	5.00	W & R 6090 to 6499
9:30	10:30	1.00	Drill 6499 to 6540
10:30	11:30	1.00	Circ. & condition
11:30	16:00	4.50	POOH for directional ass.
16:00	17:30	1.50	Pick up motor & MWD, test same
17:30	21:30	4.00	RIH
21:30	0:00	2.50	Drill & survey 6540 to 6603

This am. Drilling 6840

CONFIDENTIAL

Daily Total	24.00
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DAILY DRILLING REPORT

24 hrs - midnight to midnight

Operator: Wolverine G&O Co of Utah, LLC

DATE	WELL	CONTRACTOR	COUNTY, STATE	SPUD DATE	API#		SUPERVISOR	
07/27/05	Wolverine Federal 19-1	Unit Rig #111	Sevier, UT	6/30/05	43-041-30033		George Urban	
DAYS F/ SPUD	PRESENT OPERATIONS @ MIDNIGHT		TOTAL DEPTH	PROGRESS	DRILLING TIME	ROP	FORMATION	AUTH. DEPTH
28	work stuck pipe		6,499	104	3.00	34.7	Arapiean	7750 md

MUD DATA

WT	VIS.	WL	CK	PH	SAND	SOLIDS %	PV	YP	GELS	DEPTH	DATE/TIME	CHLORIDES	CALCIUM	MBT	% LCM
10.0	33	n/c	2/32	10.2	0.50	4.25	6	12	7/14	6092	7/26/08:00	133,000	3140		

BIT DATA

BIT NO.	SIZE	MFG.	TYPE	IADC CODE	SERIAL NO.	JETS (1/32nd) or TFA			IN	OUT	FOOTAGE	HOURS	ROP	MTR	RPM RT-MTR	WOB	DULL CONDITION		
																	T	B	G
5	12.250	Reed	HP53AKPR	537	PB4483	24	24	24	3736	4769	1033	55.50	18.6	Y	30-120	45	2	3	1
6	12.250	Sec	EBXS20S	517	10565860	24	24	24	4769	6499	1730	84.50	20.5	Y	30/120	45			
													#DIV/0!						
													#DIV/0!						

HYDRAULICS

PUMP NO.	MANUFACTURER	LINER	STROKE LENGTH	GAL / STK	SPM	GPM	AV DP	AV DC	PUMP PRESS.	MTR DIFF PRESS.	NHP / IN ²	ECD			68 spm	74 spm	73 spm
1	National	6"	8.5	2.96	125	370			1800	150			1				
2	National	6"	8.5	2.96	125	370							2	200			
3	National	6"	8.5	2.96	125	370							3				250

SLOW PUMP

		68 spm	74 spm	73 spm
	1			
	2	200		
	3			250

DRILL STRING

BOTTOMHOLE ASSEMBLY		LENGTH	O.D.	I.D.
12 1/4 bit		1.50		
Directional assembly		129.03		
		0		
18 5" SWDP		545.00		
Jar		32.00		
4 5" HWDP		120.00		
Casing rollers		37.97		
Total BHA:		865.50		
STRING WT.	BHA WT.	PU WT.	SO WT.	ROT. TORQUE
160	89	275	160	375

GEOLOGIC

FORMATION	MD	TVD	LITHOLOGY
Arapiean			
Twin Creek			
Navajo			
GAS DATA			
BOTTOMS UP TIME	BG GAS	CONN GAS	TRIP GAS
	3-12		
SHOWS			
GAS UNITS	FROM	TO	ROP (FT/HR)
GRD. ELEVATION	GL TO KB	KB ELEVATION	INTERMEDIATE CSG
5,839	17	5,856	

GENERAL INFO

RIG INFO	
Rig No	Unit 111
Cell Narren	918-645-6671
Last BOP Test	7/17
Next BOP Test	8/17
Last Safety Meeting	7/26
Last BOP Drill	7/26
Last Operate Pipe Ram	7/27
Last Operate Blind Ram	7/27
Last Operate Annular	7/27
LAST CASING	NEXT CASING
13 3/8 @ 2448	

SURVEYS

[illegible]

DAILY ACTIVITY

FROM			LAST 24 HOURS:
0:00	3:00	3.00	Drill from 6395' to 6499'.
3:00	3:30	0.50	Circ. Sweep half way to surface, stand pipe started leaking bad.
3:30	9:00	5.50	POOH
9:00	9:30	0.50	Lay out top 25' of stand pipe, cut and weld 10' section back in.
9:30	10:30	1.00	Lay down 6 5/8 swdp (6 jts.)
10:30	11:30	1.00	Pull rest of BHA and lay down MWD.
11:30	13:00	1.50	Pick up top stand pipe and reinstall.
13:00	17:00	4.00	Lay down mud motor and bit, pick up new motor, RR# 5 bit, MWD with Gamma.
17:00	20:30	3.50	TIH work tight spot @ 3340' to 3370'
20:30	22:30	2.00	TIH to 5361' work tight spot, trip in to 5936' work through tight spot
22:30	0:00	1.50	Kelly up @5957' wash and ream to 5992', kelly down pull up 3' pulled tight, work pipe & jars.

This am Work stuck pipe @ 5992' differential stuck below jars.
Getting ready to spot pipe free.

CONFIDENTIAL

Daily Total	24.00
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[illegible]

Engineering & Supervision										EXACT Engineering, Inc.										(918) 599-9400											
Operator: Wolverine G&O Co of Utah, LLC										DAILY DRILLING REPORT										24 hrs - midnight to midnight											
DATE		WELL		CONTRACTOR		COUNTY, STATE		SPUD DATE		API#		SUPERVISOR		DATE		WELL		CONTRACTOR		COUNTY, STATE		SPUD DATE		API#		SUPERVISOR					
07/25/05		Wolverine Federal 19-1		Unit Rig #111		Sevier, UT		6/30/05		43-041-30033		George Urban																			
DAYS F/ SPUD		PRESENT OPERATIONS @ MIDNIGHT		TOTAL DEPTH		PROGRESS		DRILLING TIME		ROP		FORMATION		AUTH. DEPTH																	
26		Drilling		5,975		410		20.00		20.5		Arapiean		7750 md																	
MUD DATA																															
WT		VIS.		WL		CK		PH		SAND		SOLIDS %		PV		YP		GELS		DEPTH		DATE/TIME		CHLORIDES		CALCIUM		MBT		% LCM	
10.0		34		n/c		2/32		10.5		0.50		4.50		6		12		7/13		5763		7/25/08:00		129,000		2980					
BIT DATA																															
BIT NO.		SIZE		MFG.		TYPE		IADC CODE		SERIAL NO.		JETS (1/32nd") or TFA		IN		OUT		FOOTAGE		HOURS		ROP		MTR		RPM		WOB		DULL CONDITION	
5		12.250		Reed		HP53AKPR		537		PB4483		24 24 24		3736		4769		1033		55.50		18.6		Y		30-120		45		2 3 1	
6		12.250		Sec		EBXS20S		517		10565860		24 24 24		4769				1206		61.00		19.8		Y		30/120		45			
																						#DIV/0!									
																						#DIV/0!									
HYDRAULICS																															
PUMP NO.		MANUFACTURER		LINER		STROKE LENGTH		GAL / STK		SPM		GPM		AV DP		AV DC		PUMP PRESS.		MTR DIFF PRESS.		HHP / IN ²		ECD							
1		National		6"		8.5		2.96		125		370						1800		150											
2		National		6"		8.5		2.96		125		370																			
3		National		6"		8.5		2.96		125		370																			
SLOW PUMP																															
																										68 spm		74 spm		73 spm	
DRILL STRING																															
BOTTOMHOLE ASSEMBLY		LENGTH		O.D.		I.D.		FORMATION		MD		TVD		LITHOLOGY																	
12 1/4 bit		1.50						Arapiean																							
Directional assmblly		125.44						Twin Creek																							
6 6 5/8 HWDP		180.00						Navajo																							
18 5" SWDP		545.00																													
Jar		32.00																													
4 5" HWDP		120.00																													
Casing rollers		37.97																													
Total BHA:		1,041.91																													
STRING WT.																															

DAILY DRILLING REPORT

24 hrs - midnight to midnight

Operator: Wolverine G&O Co of Utah, LLC

DATE	WELL	CONTRACTOR	COUNTY, STATE	SPUD DATE	API#	SUPERVISOR	
07/24/05	Wolverine Federal 19-1	Unit Rig #111	Sevier, UT	6/30/05	43-041-30033	George Urban	
DAYS F/ SPUD	PRESENT OPERATIONS @ MIDNIGHT	TOTAL DEPTH	PROGRESS	DRILLING TIME	ROP	FORMATION	AUTH. DEPTH
25	Drilling	5,565	439	23.50	18.7	Arapiean	7750 md

MUD DATA

MOD DATA															
WT	VIS.	WL	CK	PH	SAND	SOLIDS %	PV	YP	GELS	DEPTH	DATE/TIME	CHLORIDES	CALCIUM	MBT	% LCM
10.1	34	n/c	2/32	9.5	0.50	5.75	5	13	9/14	5232	7/24/08:00	120,000	3100		

BIT DATA

BIT DATA																			
BIT NO.	SIZE	MFG.	TYPE	IADC CODE	SERIAL NO.	JETS (1/32nd") or TFA			IN	OUT	FOOTAGE	HOURS	ROP	MTR	RPM RT+MTR	WOB	DULL CONDITION		
						T	B	G											
5	12.250	Reed	HP53AKPR	537	PB4483	24	24	24	3736	4769	1033	55.50	18.6	Y	30-120	45	2	3	1
6	12.250	Sec	EBXS20S	517	10565860	24	24	24	4769		796	41.00	19.4	Y	30/120	45			
													#DIV/0!						
													#DIV/0!						

HYDRAULICS

PUMP NO.	MANUFACTURER	LINER	STROKE LENGTH	GAL / STK	SPM	GPM	AV DP	AV DC	PUMP PRESS.	MTR DIFF PRESS.	HHP / IN ²	ECD			69 spm	74 spm	73 spm
1	National	6"	8.5	2.96	125	370			11750	150			1	220			
2	National	6"	8.5	2.96	125	370							2				
3	National	6"	8.5	2.96	125	370							3				245

SLOW PUMP

		69 spm	74 spm	73 spm
1	220			
2				
3				245

DRILL STRING

BOTTOMHOLE ASSEMBLY		LENGTH	O.D.	I.D.
12 1/4 bit		1.50		
Directional assembly		125.44		
6 6 5/8 HWDP		180.00		
18 5" SWDP		545.00		
Jar		32.00		
4 5" HWDP		120.00		
Casing rollers		37.97		
Total BHA:		1,041.91		
STRING WT.	BHA WT.	PU WT.	SO WT.	ROT. TORQUE
150	89	250	105	375

GEOLOGIC

FORMATION	MO	TVD	LITHOLOGY
Arapiean			
Twin Creek			
Navajo			
GAS DATA			
BOTTOMS UP TIME	BG GAS	CONN GAS	TRIP GAS
	3-12		
SHOWS			
GAS UNITS	FROM	TO	ROP (FT/HR)
GRD. ELEVATION	GL TO KB	KB ELEVATION	INTERMEDIATE CSG
5,839	17	5,856	

GENERAL INFO

RIG INFO	
Rig No	Unit 111
Cell Narren	918-645-6671
Last BOP Test	7/17
Next BOP Test	8/17
Last Safety Meeting	7/24
Last BOP Drill	7/24
Last Operate Pipe Ram	
Last Operate Blind Ram	
Last Operate Annular	
LAST CASING	NEXT CASING
13 3/8 @ 2448	

SURVEYS

SURVEYS																	
MD	INCL.	AZIMUTH	TVD	SECTION	N+ / S-	E+ / W-	DLS	TOOL	MD	INCL.	AZIMUTH	TVD	SECTION	N+ / S-	E+ / W-	DLS	TOOL
5,216	41.20	227.80	4381	2521	-1513	-2017	1.99	MWD	5,405	30.90	233.30	4534	2631	-1584	-2100	5.98	MWD
5,311	36.00	229.00	4456	2579	-1551	-2060	4.07	MWD	5,500	33.00	238.00	4615	2681	-1612	-2142	3.43	MWD

DAILY ACTIVITY

[illegible]

Operator: Wolverine G&O Co of Utah, LLC

DAILY DRILLING REPORT

24 hrs - midnight to midnight

Operator: Wolverine G&O Co of Utah, LLC							
DATE	WELL	CONTRACTOR	COUNTY, STATE	SPUD DATE	API#	SUPERVISOR	
07/23/05	Wolverine Federal 19-1	Unit Rig #111	Sevier, UT	6/30/05	43-041-30033	George Urban	
DAYS F/ SPUD	PRESENT OPERATIONS @ MIDNIGHT	TOTAL DEPTH	PROGRESS	DRILLING TIME	ROP	FORMATION	AUTH. DEPTH
24	Drilling	5,126	357	17.50	20.4	Arapiean	7750 md

MUD DATA

WT	VIS.	WL	CK	PH	SAND	SOLIDS %	PV	YP	GELS	DEPTH	DATE/TIME	CHLORIDES	CALCIUM	MBT	% LCM
10.1	31	n/c	2/32	8.0	0.50	5.25	4	10	8/10	4862	7/23/08:00	132,000	3100		

BIT DATA

BIT NO.	SIZE	MFG.	TYPE	IADC CODE	SERIAL NO.	JETS (1/32nd") or TFA			IN	OUT	FOOTAGE	HOURS	ROP	MTR	RPM RT+MTR	WOB	DULL CONDITION		
						T	B	G											
5	12.250	Reed	HP53AKPR	537	PB4483	24	24	24	3736	4769	1033	55.50	18.6	Y	30-120	45	2	3	I
6	12.250	Sec	EBXS20S	517	10565860	24	24	24	4769		357	17.50	20.4	Y	30/120	45			
													#DIV/0!						
													#DIV/0!						

HYDRAULICS

PUMP NO.	MANUFACTURER	LINER	STROKE LENGTH	GAL / STK	SPM	GPM	AV DP	AV DC	PUMP PRESS.	MTR DIFF PRESS.	HHP / IN ²	ECD	SLOW PUMP			
													69 spm	74 spm	100 spm	
1	National	6"	8.5	2.96	125	370			1450	100			1	170		
2	National	6"	8.5	2.96	125	370							2			
3	National	6"	8.5	2.96	125	370							3		190	

DRILL STRING

BHA DATA					GENERAL DATA				RIG INFO	
BOTTOMHOLE ASSEMBLY		LENGTH	O.D.	I.D.	FORMATION	MD	TVD	LITHOLOGY		
12 1/4 bit		1.50			Arapiean				Rig No	Unit 111
Directional assmbly		125.44			Twin Creek				Cell Narren	918-645-6671
6 6 5/8 HWDP		180.00			Navajo				Last BOP Test	7/17
18 5" SWDP		545.00			GAS DATA				Next BOP Test	8/17
					BOTTOMS UP TIME	BG GAS	CONN GAS	TRIP GAS	Last Safety Meeting	7/23
Jar		32.00				3-12		19	Last BOP Drill	7/23
4 5" HWDP		120.00			SHOWS				Last Operate Pipe Ran	
					GAS UNITS	FROM	TO	ROP (FT/HR)	Last Operate Blind Ra	
Casing rollers		37.97							Last Operate Annular	
Total BHA:		1,041.91								
STRING WT.	BHA WT.	PU WT.	SO WT.	ROT. TORQUE	GRD. ELEVATION	GL TO KB	KB ELEVATION	INTERMEDIATE CSG	LAST CASING	NEXT CASING
140	89	225	105	330	5,839	17	5,856		13 3/8 @ 2448	

SURVEYS

MD	INCL.	AZIMUTH	TVD	SECTION	N+ / S-	E+ / W-	DLS	TOOL	MD	INCL.	AZIMUTH	TVD	SECTION	N+ / S-	E+ / W-	DLS	TOOL
4,838	40.40	229.20	4096	2274	-1352	-1828	0.83	MWD	5,027	42.10	230.10	4239	2397	-1432	-1923	1.62	MWD
4,933	40.60	229.70	4168	2335	-1392	-1875	0.40	MWD	5,122	41.20	229.70	4310	2460	-1472	-1971	0.99	MWD

DAILY ACTIVITY

FROM			LAST 24 HOURS:
0:00	1:00	1.00	PK/UP new bit and mud motor, test MWD
1:00	4:00	3.00	TIH move casing rollers up hole, wash and ream 30' to bottom, pump sweep.
4:00	8:30	4.50	Drill from 4769' to 4898'
8:30	11:00	2.50	Rig repair, Weld pin hole in stand pipe. (Unit ordered new stand pipe)
11:00	0:00	13.00	Drill from 4898' to 5126'

CONFIDENTIAL

This am drilling @ 5201'

Daily Total 24.00

24 hrs - midnight to midnight

DATE	WELL	CONTRACTOR	COUNTY, STATE	SPUD DATE	API#	SUPERVISOR	
07/22/05	Wolverine Federal 19-1	Unit Rig #111	Sevier, UT	6/30/05	43-041-30033	George Urban	
DAYS F/ SPUD	PRESENT OPERATIONS @ MIDNIGHT	TOTAL DEPTH	PROGRESS	DRILLING TIME	ROP	FORMATION	AUTH. DEPTH
23	C/O BHA	4,769	335	17.50	19.1	Arapiean	7750 md

WT	VIS.	WL	CK	PH	SAND	SOLIDS %	PV	YP	GELS	DEPTH	DATE/TIME	CHLORIDES	CALCIUM	MBT	% LCM
9.9	31	n/c	2/32	10.0	0.50	5.50	4	9	7/9	4551	7/22/08:00	108,000	2380		

BIT NO.	SIZE	MFG.	TYPE	IADC CODE	SERIAL NO.	JETS (1/32nd") or TFA			IN	OUT	FOOTAGE	HOURS	ROP	MTR	RPM RT+MTR	WOB	DULL CONDITION		
						T	B	G											
5	12.250	Reed	HP53AKPR	537	PB4483	24	24	24	3736	4769	1033	55.50	18.6	Y	30-120	45	2	3	1
6	12.250	Sec	EBXS20S	517	10565860	24	24	24	4769				#DIV/0!						
													#DIV/0!						
													#DIV/0!						

PUMP NO.	MANUFACTURER	LINER	STROKE LENGTH	GAL / STK	SPM	GPM	AV DP	AV DC	PUMP PRESS.	MTR DIFF PRESS.	HHP / IN ²	ECD			69 spm	79 spm	100 spm
1	National	6"	8.5	2.96	125	370			1450	100			1		170		
2	National	6"	8.5	2.96	125	370							2				
3	National	6"	8.5	2.96	125	370							3			220	

DRILL STRING					GEOLOGIC				GENERAL INFO		
BOTTOMHOLE ASSEMBLY		LENGTH	O.D.	I.D.	FORMATION	MD	TVD	LITHOLOGY	RIG INFO		
12 1/4 bit		1.50			Arapiean				Rig No	Unit 111	
Directional assmblly		125.86			Twin Creek				Cell Narren	918-645-6671	
6 6 5/8 HWDP		180.00			Navajo				Last BOP Test	7/17	
18 5" SWDP		545.00			GAS DATA					Next BOP Test	8/17
Jar		32.00			BOTTOMS UP TIME	BG GAS	CONN GAS	TRIP GAS	Last Safety Meeting	7/22	
4 5" HWDP		120.00				3-12			Last BOP Drill	7/22	
Casing rollers		37.97			SHOWS					Last Operate Pipe Ran	
					GAS UNITS	FROM	TO	ROP (FT/HR)	Last Operate Blind Ra		
Total BHA:		1,042.33								Last Operate Annular	
STRING WT.	BHA WT.	PU WT.	SO WT.	ROT. TORQUE	GRD. ELEVATION	GL TO KB	KB ELEVATION	INTERMEDIATE CSG	LAST CASING	NEXT CASING	
135	89	210	100	300	5,839	17	5,856		13 3/8 @ 2448		

MD	INCL.	AZIMUTH	TVD	SECTION	N+ / S-	E+ / W-	DLS	TOOL
4,462	38.50	230.10	3806	2034	-1199	-1643	0.39	MWD
4,556	38.50	231.10	3879	2093	-1236	-1689	0.66	MWD

[illegible]

DAILY DRILLING REPORT

24 hrs - midnight to midnight

Operator: Wolverine G&O Co of Utah, LLC

Operator: Wolverine S&S Co., Salt Lake City, UT								
DATE	WELL	CONTRACTOR	COUNTY, STATE	SPUD DATE	API#	SUPERVISOR		
07/21/05	Wolverine Federal 19-1	Unit Rig #111	Sevier, UT	6/30/05	43-041-30033	George Urban		
DAYS F/ SPUD	PRESENT OPERATIONS @ MIDNIGHT		TOTAL DEPTH	PROGRESS	DRILLING TIME	ROP	FORMATION	AUTH. DEPTH
22	Drilling		4,434	431	23.00	18.7	Arapiean	7750 md

MUD DATA

MOD DATA															
WT	VIS.	WL	CK	PH	SAND	SOLIDS %	PV	YP	GELS	DEPTH	DATE/TIME	CHLORIDES	CALCIUM	MBT	% LCM
9.9	30	n/c	2/32	10.5	0.50	5.25	2	8	3/5	4120	7/21/08:00	106,000	2340		

BIT DATA

BIT NO.	SIZE	MFG.	TYPE	IADC CODE	SERIAL NO.	JETS (1/32nd") or TFA			IN		OUT	FOOTAGE	HOURS	ROP	MTR	RPM RT+MTR	WOB	DULL CONDITION		
									T	B								G		
3	17.500	HTC	X14-09		602085	28	28	28	2290	2448		158	63.50	2.5	Y	30-120	40			
4	12.250	Reed	HP43AKPR	437	B73542	24	24	24	2448	3736		1288	56.00	23.0	Y	30/120	40	3	F	-1/8
5	12.500	Reed	HP53AKPR	537	PB4483	24	24	24	3736			702	38.00	18.5	Y	30/120	45			
														#DIV/0!						

HYDRAULICS

HYDRALIC																	
PUMP NO.	MANUFACTURER	LINER	STROKE LENGTH	GAL / STK	SPM	GPM	AV OP	AV DC	PUMP PRESS.	MTR DIFF PRESS.	HHP / IN ²	ECD			69 spm	74 spm	100 spm
1	National	6"	8.5	2.96	125	370			1450	100			1		150		
2	National	6"	8.5	2.96	125	370							2			180	
3	National	6"	8.5	2.96	125	370							3				

SLOW PUMP

	69 spm	74 spm	100 spm
1	150		
2		180	
3			

DRILL STRING

BOTTOMHOLE ASSEMBLY		LENGTH	O.D.	I.D.
12 1/4 bit		1.50		
Directional assmblly		125.86		
6 6 5/8 HWDP		180.00		
18 5" SWDP		545.00		
Jar		32.00		
4 5" HWDP		120.00		
Casing rollers		37.97		
Total BHA:		1,042.33		
STRING WT.	BHA WT.	PU WT.	SO WT.	ROT. TORQUE
130	89	205	100	300

GEOLOGIC

FORMATION	MD	TVD	LITHOLOGY
Arapiean			
Twin Creek			
Navajo			
GAS DATA			
BOTTOMS UP TIME	BG GAS	CONN GAS	TRIP GAS
	3-12		
SHOWS			
GAS UNITS	FROM	TO	ROP (FT/HR)
GRD. ELEVATION	GL TO KB	KB ELEVATION	INTERMEDIATE CSG
5,839	17	5,856	

GENERAL INFO

RIG INFO	
Rig No	Unit 111
Cell Narren	918-645-6671
Last BOP Test	7/17
Next BOP Test	8/17
Last Safety Meeting	7/21
Last BOP Drill	7/21
Last Operate Pipe Ram	
Last Operate Blind Ram	
Last Operate Annular	
LAST CASING	NEXT CASING
13 3/8 @ 2448	

SURVEYS

MD	INCL.	AZIMUTH	TVD	SECTION	N+/-S-	E+/-W-	DLS	TOOL	MD	INCL.	AZIMUTH	TVD	SECTION	N+/-S-	E+/-W-	DLS	TOOL
4,085	37.50	235.90	3508	1803	-1054	-1463	3.61	MWD	4,273	38.20	229.70	3658	1917	-1124	-1554	2.22	MWD
4,179	37.10	232.60	3583	1860	-1088	-1509	2.17	MWD	4,367	38.30	229.60	3732	1976	-1161	-1598	0.13	MWD

DAILY ACTIVITY

[illegible]

CONFIDENTIAL

This am drilling @ 4522'

COST DATA

Operator: Wolverine G&O Co of Utah, LLC

DAILY DRILLING REPORT

24 hrs - midnight to midnight

Operator: Wolverine G&O Co of Utah, LLC									
DATE	WELL	CONTRACTOR	COUNTY, STATE	SPUD DATE	API#	SUPERVISOR			
07/20/05	Wolverine Federal 19-1	Unit Rig #111	Sevier, UT	6/30/05	43-041-30033	George Urban			
DAYS F/ SPUD	PRESENT OPERATIONS @ MIDNIGHT	TOTAL DEPTH	PROGRESS	DRILLING TIME	ROP	FORMATION	AUTH. DEPTH		
21	Drilling	4,007	271	15.00	18.1	Arapiean	7750 md		

MUD DATA

MOE DATA															
WT	VIS.	WL	CK	PH	SAND	SOLIDS %	PV	YP	GELS	DEPTH	DATE/TIME	CHLORIDES	CALCIUM	MBT	% LCM
9 R	30	n/c	2/32	10.0	0.50	4.75	3	7	3/5	3781	7/20/08:00	106,000	2300		

BIT DATA

BIT NO.	SIZE	MFG.	TYPE	IADC CODE	SERIAL NO.	JETS (1/32nd") or TFA			IN	OUT	FOOTAGE	HOURS	ROP	MTR	RPM RT+MTR	WOB	DULL CONDITION		
						T	B	G											
3	17.500	HTC	X14-09		602085	28	28	28	2290	2448	158	63.50	2.5	Y	30-120	40	3	4	I
4	12.250	Reed	HP43AKPR	437	B73542	24	24	24	2448	3736	1288	56.00	23.0	Y	30/120	40	3	F	-1/8
5	12.500	Reed	HP53AKPR	537	PB4483	24	24	24	3736		271	15.00	18.1	Y	30/120	45			
													#DIV/0!						

HYDRAULICS

HYDRO-200													HYDRO-200				
PUMP NO.	MANUFACTURER	LINER	STROKE LENGTH	GAL / STK	SPM	GPM	AV DP	AV DC	PUMP PRESS.	MTR DIFF PRESS.	HHP / IN ²	ECD			69 spm	62 spm	100 spm
1	National	6"	8.5	2.96	125	370			1450	100			1		170		
2	National	6"	8.5	2.96	125	370							2			140	
3	National	6"	8.5	2.96	125	370							3				

SLOW PUMP

	69 spm	62 spm	100 spm
1	170		
2		140	
3			

DRILL STRING

BOTTOMHOLE ASSEMBLY		LENGTH	O.D.	I.D.
12 1/4 bit		1.50		
Directional assmblly		125.73		
6 6 5/8 HWDP		180.00		
18 5" SWDP		545.00		
Jar		32.00		
4 5" HWDP		120.00		
Total BHA:		1,004.23		
STRING WT.	BHA WT.	PU WT.	SO WT.	ROT. TORQUE
125	89	180	100	300

GEOLOGIC

FORMATION	MD	TVD	LITHOLOGY
Arapiean			
Twin Creek			
Navajo			
GAS DATA			
BOTTOMS UP TIME	BG GAS	CONN GAS	TRIP GAS
	3-12		
SHOWS			
GAS UNITS	FROM	TO	ROP (FT/HR)
GRD. ELEVATION	GL TO KB	KB ELEVATION	INTERMEDIATE CSG
5,839	17	5,856	

GENERAL INFO

RIG INFO	
Rig No	Unit 111
Cell Nurren	918-645-6671
Last BOP Test	7/17
Next BOP Test	8/17
Last Safety Meeting	7/20
Last BOP Drill	7/20
Last Operate Pipe Ra	
Last Operate Blind Ra	
Last Operate Annular	
LAST CASING	NEXT CASING
13 3/8 @ 2448	

SURVEYS

MD	INCL.	AZIMUTH	TVD	SECTION	N+/-S-	E+/-W-	DLS	TOOL	MD	INCL.	AZIMUTH	TVD	SECTION	N+/-S-	E+/-W-	DLS	TOOL
3,707	40.80	242.20	3217	1565	-940	-1251	1.13	MWD	3,896	39.80	242.90	3362	1685	-995	-1360	0.81	MWD
3,801	39.80	244.10	3289	1625	-968	-1305	1.69	MWD	3,990	39.40	240.50	3434	1744	-1023	-1413	1.68	MWD

DAILY ACTIVITY

FROM			LAST 24 HOURS:	
0:00	0:30	0.50	Test motor and MWD	
0:30	4:00	3.50	TIH P/U 10 torque reducer subs	
4:00	5:00	1.00	Ream from 3680 to 3736	
5:00	13:30	8.50	Drill from 3736' to 3888'	
13:30	14:00	0.50	Rig service	
14:00	17:30	3.50	Drill from 3888' to 3951'	
17:30	21:00	3.50	Pull 2 stands and repair standpipe.	
21:00	0:00	3.00	Drill from 3951' to 4007'	
			Level rig while drilling, driller side settled 5"+	
			This am drilling @ 4088'	
Daily Total		24.00		

CONFIDENTIAL

COST DATA

24 hrs - midnight to midnight

COST DATA

24 hrs - midnight to midnight

DATE	WELL	CONTRACTOR	COUNTY, STATE	SPUD DATE	API#	SUPERVISOR	
07/18/05	Wolverine Federal 19-1	Unit Rig #111	Sevier, UT	6/30/05	43-041-30033	George Urban	
DAYS F/ SPUD	PRESENT OPERATIONS @ MIDNIGHT	TOTAL DEPTH	PROGRESS	DRILLING TIME	ROP	FORMATION	AUTH. DEPTH
19	Drilling	3,420	607	23.50	25.8	Arapiean	7750 md

WT	VIS	WL	CK	PH	SAND	SOLIDS %	PV	YP	GELS	DEPTH	DATE/TIME	CHLORIDES	CALCIUM	MBT	% LCM
9.3	28	n/c	2/32	10.0	tr	4.30	3	5	0	3030	7/18/08:00	47,000	2000		

BIT NO.	SIZE	MFG.	TYPE	IADC CODE	SERIAL NO.	JETS (1/32nd") or TFA			IN	OUT	FOOTAGE	HOURS	ROP	MTR	RPM RT+MTR	WOB	DULL CONDITION		
						T	B	G											
3	17.500	HTC	X14-09		602085	28	28	28	2290	2448	158	63.50	2.5	Y	30-120	40	3	4	I
4	12.250	Reed	HP43AKPR		B73542	24	24	24	2448		972	37.50	25.9	Y	30/120	35			
													#DIV/0!						
													#DIV/0!						

PUMP NO.	MANUFACTURER	LINER	STROKE LENGTH	GAL / STK	SPM	GPM	AV DP	AV DC	PUMP PRESS.	MTR DIFF PRESS.	HHP / IN ²	ECD				62 spm	76 spm	100 spm
1	National	6"	8.5	2.96	125	370			1250	100				1				
2	National	6"	8.5	2.96	125	370								2	120			
3	National	6"	8.5	2.96	125	370								3		160		

DRILL STRING					GEOLOGIC				GENERAL INFO	
BOTTOMHOLE ASSEMBLY		LENGTH	O.D.	I.D.	FORMATION	MD	TYD	LITHOLOGY	RIG INFO	
12 1/4 bit		1.50			Arapiean				Rig No	Unit 111
Directional assmbly		125.73			Twin Creek				Cell Narren	918-645-6671
6 6 5/8 HWDP		180.00			Navajo				Last BOP Test	7/17
18 5" SWDP		545.00			GAS DATA				Next BOP Test	8/17
Jar		32.00			BOTTOMS UP TIME	BG GAS	CONN GAS	TRIP GAS	Last Safety Meeting	7/18
4 5" HWDP		120.00			SHOWS				Last BOP Drill	
					GAS UNITS	FROM	TO	ROP (FY/HR)	Last Operate Pipe Rar	
									Last Operate Blind Ra	
									Last Operate Annular	
Total BHA:		1,004.23							LAST CASING	NEXT CASING
STRING WT.	BHA WT.	PU WT.	SO WT.	ROT. TORQUE	GRD. ELEVATION	GL TO KB	KB ELEVATION	INTERMEDIATE CSG		
115	89	165	95	250	5,839	17	5,856		13 3/8 @ 2448	

MD	INCL.	AZIMUTH	TVD	SECTION	N+ / S-	E+ / W-	DLS	TOOL	MD	INCL.	AZIMUTH	TVD	SECTION	N+ / S-	E+ / W-	DLS	TOOL
2,944	43.40	228.10	2650	1056	-631	-847	0.89	MWD	3,227	43.30	230.40	2856	1250	-755	-996	0.99	MWD
3,039	42.30	230.40	2720	1121	-673	-896	2.01	MWD	3,322	42.20	230.10	2926	1314	-796	-1046	1.18	MWD

[illegible]

CONFIDENTIAL

This am drilling @ 3540'

COST DATA

24 hrs - midnight to midnight

DATE	WELL	CONTRACTOR	COUNTY, STATE	SPUD DATE	AP#	SUPERVISOR	
07/17/05	Wolverine Federal 19-1	Unit Rig #111	Sevier, UT	6/30/05	43-041-30033	George Urban	
DAYS F/ SPUD	PRESENT OPERATIONS @ MIDNIGHT	TOTAL DEPTH	PROGRESS	DRILLING TIME	ROP	FORMATION	AUTH. DEPTH
18	Drilling	2,813	365	14.00	26.1	Arapiean	7750 md

WT	VIS.	WL	CK	PH	SAND	SOLIDS %	PV	YP	GELS	DEPTH	DATE/TIME	CHLORIDES	CALCIUM	MBT	% LCM
8.4	27	n/c	0	9.0	0.00	0.00	0	0	0	2448	7/17/08:00	8,000	240		

BIT NO.	SIZE	MFG.	TYPE	IADC CODE	SERIAL NO.	JETS (1/32nd) or TFA			IN	OUT	FOOTAGE	HOURS	ROP	MTR	RPM RT+MTR	WOB	DULL CONDITION		
																	T	B	G
3	17.500	HTC	X14-09		602085	28	28	28	2290	2448	158	63.50	2.5	Y	30-120	40	3	4	1
4	12.250	Reed	HP43AKPR		B73542	24	24	24	2448		365	14.00	26.1	Y	30/120	35			
													#DIV/0!						
													#DIV/0!						

HYDRAGLOSS																	
PUMP NO.	MANUFACTURER	LINER	STROKE LENGTH	GAL / STK	SPM	GPM	AV DP	AV DC	PUMP PRESS.	MTR DIFF PRESS.	HHP / IN ²	ECD			67 spm	76 spm	100 spm
1	National	6"	8.5	2.96	125	370			1250	100			1				
2	National	6"	8.5	2.96	125	370							2				
3	National	6"	8.5	2.96	125	370							3				

DRILL STRING					WELL DATA				RIG INFO	
BOTTOMHOLE ASSEMBLY	LENGTH	O.D.	I.D.		FORMATION	MD	TVD	LITHOLOGY	Rig No	Unit 111
12 1/4 bit	1.50				Arapiean				Cell Norren	918-645-6671
Directional assmby	125.73				Twin Creek				Last BOP Test	7/17
6 6 5/8 HWDP	180.00				Navajo				Next BOP Test	8/17
18 5" SWDP	545.00				GAS DATA				Last Safety Meeting	7/17
Jar	32.00				BOTTOMS UP TIME	BG GAS	CONN GAS	TRIP GAS	Last BOP Drill	
4 5" HWDP	120.00				SHOWS				Last Operate Pipe Ran	
					GAS UNITS	FROM	TO	ROP (FT/HR)	Last Operate Blind Ra	
									Last Operate Annular	
									LAST CASING	NEXT CASING
Total BHA:	1,004.23				GRD. ELEVATION	GL TO KB	KB ELEVATION	INTERMEDIATE CSG	13 3/8 @ 2448	
STRING WT.	BHA WT.	PU WT.	SO WT.	ROT. TORQUE						
115	89	125	105	215	5,839	17	5,856			

MD	INCL.	AZIMUTH	TVD	SECTION	N+ / S-	E+ / W-	DLS	TOOL	MD	INCL.	AZIMUTH	TVD	SECTION	N+ / S-	E+ / W-	DLS	TOOL
2,472	41.80	233.60	2310	729	-424	-593	3.08	MWD	2,661	45.20	231.30	2448	859	-502	-696	2.76	MWD
2,566	42.90	233.10	2379	793	-462	-644	1.22	MWD	2,755	44.60	230.60	2514	925	-544	-748	0.83	MWD

[illegible]

CONFIDENTIAL

This am drilling @ 2980'

COST DATA

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0137
Expires: March 31, 2007

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

SUBMIT IN TRIPLICATE- Other instructions on reverse side.

1. Type of Well <input type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input checked="" type="checkbox"/> Other		5. Lease Serial No. UTU-73528
2. Name of Operator Wolverine Gas & Oil Co of Utah, LLC		6. If Indian, Allottee or Tribe Name N/A
3a. Address One Riverfront Plaza, 55 Campau NW, Grand Rapids, MI	3b. Phone No. (include area code) 616-458-1150	7. If Unit or CA/Agreement, Name and/or No. Wolverine Fed Exploration Unit
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) Surface hole location - 798' FSL & 1,937 FWL, SW/SW, Section 17, T23S, R1W Bottom hole location - 1,216 FNL & 940' FEL, NE/NE, Section 19, T23S, R1W		8. Well Name and No. Wolverine Federal #19-1
		9. API Well No. 4304130033
		10. Field and Pool, or Exploratory Area Covenant Field
		11. County or Parish, State Sevier Co, UT

12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input type="checkbox"/> Other <u>suspend operations</u>
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

Production casing was set August 6, 2005, and drilling operations are completed.

Further operations on the subject well have been temporarily suspended until additional wells can be drilled from this pad B1. It is estimated that completion operations will begin approximately November 1, 2005, or as soon thereafter as a completion rig becomes available.

Accepted by the
Utah Division of
Oil, Gas and Mining

Federal Approval Of This
Action Is Necessary

xc: DOGM

Date: 8/23/05
By: [Signature]

14. I hereby certify that the foregoing is true and correct Name (Printed/Typed) George C. Nicely		Title Engineering Technician - EXACT Engineering Inc
Signature [Signature]		Date 08/08/2005

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.	Title Office	Date
--	-----------------	------

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on page 2)

RECEIVED

AUG 10 2005

DIV. OF OIL, GAS & MINING

EXACT Engineering, Inc.

www.exactengineering.com

415 S. Boston Ave., Suite 734, Tulsa, OK 74103 • (918) 599-9400 • (918) 599-9401 (fax)

Steven R. Hash, P.E.
Registered Professional Engineer
stevehash@exactengineering.com

CONFIDENTIAL PLEASE!

August 8, 2005

Mr. Dustin Doucet
Utah Division of Oil, Gas & Mining
1594 West North Temple, Suite 1210
Salt Lake City, UT 84114-5801

Re: Wolverine Federal 19-1 well
Sec 17 T23S R01W
Sevier Co., UT
API# 43-041-30033

Dear Mr. Doucet,

On behalf of Wolverine Gas and Oil Company of Utah, LLC, please find enclosed daily drilling reports for the subject well from August 1, 2005 through August 6, 2005. We have run production casing, marker jt. @ 6954', and rigging up to cement. We respectfully request that the enclosed information remain confidential.

Very Truly Yours,



Chris Nicely
Engineering Technician

copy without enclosures via email to:

Wolverine Gas & Oil Co of Utah, LLC:
EXACT Engineering, Inc.

Helene Bardolph
well file

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AUG 10 2005

DIV. OF OIL, GAS & MINING

Petroleum Engineering Consulting, Personnel & Jobsite Supervision

complete well design, construction & management, drilling, completion, production, pipelines, appraisals,
due diligence, acquisitions, procedures, temporary personnel and field supervision

(918) 599-9400

DAILY DRILLING REPORT

24 hrs - midnight to midnight

Operator: Wolverine G&O Co of Utah, LLC

DATE		WELL	CONTRACTOR		COUNTY, STATE	SPUD DATE	43-041-30033		Rodger Rebsom	
08/06/05		Wolverine Federal 19-1	Unit Rig #111		Sevier, UT	6/30/05				
PRESENT OPERATIONS @ MIDNIGHT			TOTAL DEPTH	PROGRESS	DRILLING TIME		ROP	FORMATION	AUTH. DEPTH	
Nippel Down			7,858	0	0.00		#DIV/0!	Arapiean		
DAYS F/SPUD										
38										

~~MUD DATA~~

38		Nipper Down		MUD DATA											
WT	VIS.	WL	CK	PH	SAND	SOLIDS %	PV	YP	GELS	DEPTH	DATE/TIME	CHLORIDES	CALCIUM	MBT	SALT PPM
8.5	35	8.0	1/32	9.5	0.50	1.20	7	8	4/8	7770	8/4/08:00	4,000	210		6,600
BIT DATA															
MUD CONDITION															

BIT DATA

8.5	35	8.0	7/32	0.0	BIT DATA														
BIT NO.	SIZE	MFG.	TYPE	IADC CODE	SERIAL NO.	JETS (1/32nd) or TFA			IN	OUT	FOOTAGE	HOURS	ROP	MTR	RPM RT+MTR	WOB	DULL CONDITION		
																	T	B	G
													#DIV/0!						
9	8.50	Reed	EHP53KPR	537	0R6170	12	12	12	7542	7858	316	15.00	21.1	Y	30/120	40	4	2	1
													#DIV/0!						
														SLOW PUMP					

HYDRAULICS

HYDRAULICS													69 spm			74 spm			65 spm		
PUMP NO.	MANUFACTURER	LINER	STROKE LENGTH	GAL / STK	SPM	GPM	AV DP	AV DC	PUMP PRESS.	MTR DIFF PRESS.	HHP / IN ²	ECD									
1	National	6"	8.5	2.96	125	370	175	175	1200	100			1								
2	National	6"	8.5	2.96	125								2								
3	National	6"	8.5	2.96	125								3					480			
GEOLOGIC													GENERAL INFO								

SLOW PUMP

HYDRAULICS													69 spm			74 spm			65 spm		
PUMP NO.	MANUFACTURER	LINER	STROKE LENGTH	GAL / STK	SPM	GPM	AV DP	AV DC	PUMP PRESS.	MTR DIFF PRESS.	HHP / IN ²	ECD									
1	National	6"	8.5	2.96	125	370	175	175	1200	100			1								
2	National	6"	8.5	2.96	125								2								
3	National	6"	8.5	2.96	125								3					480			
GEOLOGIC													GENERAL INFO								

~~GEOLOGIC~~

DRILL STRING

DRILL STRING					FORMATION				MD		TVD		LITHOLOGY		RIG INFO	
BOTTOMHOLE ASSEMBLY		LENGTH	O.D.	I.D.												
					Arapiean								LS-100%		Rig No Unit 111	
					Twin Creek		6,858		5,769				LS-100%		Cell Narren 918-645-66	
					Navajo		7,252		6,129						Last BOP Test 7/1	
									GAS DATA						Next BOP Test 8/1	
					BOTTOMS UP TIME		BG GAS		CONN GAS				TRIP GAS			
							10-50								Last Safety Meeting 8/5	
									SHOWS				ROP (FY/HR)		Last BOP Drill 8/5	
					GAS UNITS		FROM		TO						Last Operate Pipe Ran 8/5	
															Last Operate Blind Ran 8/5	
															Last Operate Annular 8/5	
															LAST CASING NEXT CASING	
Total BHA:					GRD. ELEVATION		GL TO KB		KB ELEVATION				INTERMEDIATE CSG		13 3/8 @ 2448	
STRING WT.		BHA WT.	PU WT.	SO WT.	ROY. TORQUE		5,839		17		5,856					

GENERAL INFO

DRILL STRING					FORMATION				MD		TVD		LITHOLOGY		RIG INFO	
BOTTOMHOLE ASSEMBLY		LENGTH	O.D.	I.D.												
					Arapiean								LS-100%		Rig No Unit 111	
					Twin Creek		6,858		5,769				LS-100%		Cell Narren 918-645-66	
					Navajo		7,252		6,129						Last BOP Test 7/1	
									GAS DATA						Next BOP Test 8/1	
					BOTTOMS UP TIME		BG GAS		CONN GAS				TRIP GAS			
							10-50								Last Safety Meeting 8/5	
									SHOWS				ROP (FY/HR)		Last BOP Drill 8/5	
					GAS UNITS		FROM		TO						Last Operate Pipe Ran 8/5	
															Last Operate Blind Ran 8/5	
															Last Operate Annular 8/5	
															LAST CASING NEXT CASING	
Total BHA:					GRD. ELEVATION		GL TO KB		KB ELEVATION				INTERMEDIATE CSG		13 3/8 @ 2448	
STRING WT.	BHA WT.	PU WT.	SO WT.	ROY. TORQUE	5,839		17		5,856							

SURVEYS

[illegible]

DAILY ACTIVITY

FROM			LAST 24 HOURS:
0:00	9:00	9.00	LAY DOWN DRILL PIPE & BHA.
9:00	15:00	6.00	RIG UP RUN 182 JTS. 7" - 23# - P-110 CASING - MARKER JT @ 6954'
15:00	19:00	4.00	CIRC. CASING - WAIT ON HALLIABURTON
19:00	22:00	3.00	RIG UP CEMENT CASING
22:00	0:00	2.00	NIPPEL DOWN BOP TO SET SLIPS

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24 hrs - midnight to midnight

Daily Total	24.00
-------------	-------

[illegible]

Engineering & Supervision						EXACT Engineering, Inc.								(918) 599-9400						
DAILY DRILLING REPORT																				
Operator: Wolverine G&O Co of Utah, LLC						24 hrs - midnight to midnight														
DATE 08/03/05		WELL Wolverine Federal 19-1			CONTRACTOR Unit Rig #111			COUNTY, STATE Sevier, UT		SPUD DATE 6/30/05		API# 43-041-30033			SUPERVISOR George Urban					
DAYS F / SPUD 35		PRESENT OPERATIONS @ MIDNIGHT DRILLING			TOTAL DEPTH 7,613		PROGRESS 177		DRILLING TIME 10.00		ROP 17.7		FORMATION Arapiean		AUTH. DEPTH 7750 md					
MUD DATA																				
WT	VIS.	WL	CK	PH	SAND	SOLIDS %	PV	YP	GELS	DEPTH	DATE/TIME	CHLORIDES	CALCIUM	MBT	SALT PPM					
8.4	35	8.0	2/32	7.0	0.50	0.75	7	7	4/7	7537	8/3/08:00	4,000					6,600			
BIT DATA																				
BIT NO.	SIZE	MFG.	TYPE	IADC CODE	SERIAL NO.	JE'S (1/32nd") or TFA			IN	OUT	FOOTAGE	HOURS	ROP	MTR	RPM RT+MTR	WOB	DULL CONDITION T B G			
8	8.50	Sec	EBXS30S	537	10709700	12	12	12	7065	7542	477	24.50	19.5	Y	30/120	40	7 2 I			
9	8.50	Reed	EHP53KPR	537	0R6170	12	12	12	7542		71	2.00	35.5	Y	30/120	40				
													#DIV/0!							
HYDRAULICS																				
PUMP NO.	MANUFACTURER	LINER	STROKE LENGTH	GAL / STK	SPM	GPM	AV DP	AV DC	PUMP PRESS.	MTR DIFF PRESS.	HHP / IN²	ECD			69 spm	74 spm	65 spm			
1	National	6"	8.5	2.96	125	370			1200	100					1					
2	National	6"	8.5	2.96	125										2					
3	National	6"	8.5	2.96	125										3		480			
GEOLOGIC																				
BOTTOMHOLE ASSEMBLY						LENGTH		O.D.	I.D.	FORMATION		MD	TVD	LITHOLOGY						
8 1/2 Bit						1.00				Arapiean				Rig No Unit 111						
Directional assmbly						89.68				Twin Creek		6,858	5,769	Cell Narren 918-645-6671						
						o				Navajo		7,252	6,129	Last BOP Test 7/17						
18 5" SWDP						545.00				GAS DATA				Next BOP Test 8/17						
Jar						32.23				SHOWS				Last Safety Meeting 8/3						
4 5" HWDP						120.00				FROM TO ROP (FT/HR)				Last BOP Drill 8/3						
Casing rollers						75.98								Last Operate Pipe Ran 8/3						
														Last Operate Blind Ran 8/3						
Total BHA:						863.89								Last Operate Annular 8/3						
STRING WT.		BHA WT.		PU WT.		SO WT.		ROT. TORQUE		GRD. ELEVATION		GL TO KB	KB ELEVATION	INTERMEDIATE CSG		LAST CASING NEXT CASING				
176		78		350		125		400		5,839		17	5,856			13 3/8 @ 2448				
SURVEYS																				
MD	INCL.	AZIMUTH	TVD	SECTION	N+ / S-	E+ / W-	DLS	TOOL	MD	INCL.	AZIMUTH	TVD	SECTION	N+ / S-	E+ / W-	DLS	TOOL			
7,473	16.90	215.30	6337	3593	-2186	-2852	0.68	MWD												
7,568	16.20	208.50	6428	3618	-2209	-2866	2.17	MWD												
DAILY ACTIVITY																				
FROM			LAST 24 HOURS:																	
0:00	8:00	8.00	Drill & Survey from 7436' to 7542'																	
8:00	9:30	1.50	Circ. Hi-vis sweep pump slug. Mud motor stalling out.																	
9:30	14:30	5.00	POOH																	
14:30	16:00	1.50	Ly/Dn bit and motor, pick up new bit and motor and test.																	
			Bit 7-2-I motor weak.																	
16:00	21:30	5.50	TIH																	
21:30	22:00	0.50	Wash and ream from 7482' to 7542'.																	
22:00	0:00	2.00	Drill & Survey from 7542' to 7613'.																	
			This am. Drilling @ 7739																	
Daily Total			24.00																	

Engineering & Supervision				EXACT Engineering, Inc.				(918) 599-9400																											
Operator: Wolverine G&O Co of Utah, LLC				DAILY DRILLING REPORT				24 hrs - midnight to midnight																											
DATE 08/02/05		WELL Wolverine Federal 19-1		CONTRACTOR Unit Rig #111		COUNTY, STATE Sevier, UT		SPUD DATE 6/30/05		API# 43-041-30033		SUPERVISOR George Urban																							
DAYS F/ SPUD 34		PRESENT OPERATIONS @ MIDNIGHT DRILLING		TOTAL DEPTH 7,436		PROGRESS 371		DRILLING TIME 16.50		ROP 22.5		FORMATION Arapiean		AUTH. DEPTH 7750 md																					
MUD DATA																																			
WT		VIS.		WL		CK		PH		SAND		SOLIDS %		PV		YP		GELS		DEPTH		DATE/TIME		CHLORIDES		CALCIUM		MBT		SALT PPM					
8.4		38		12.0		2/32		7.0		0.50		0.65		7		8		4/7		7078		8/2/08:00		4,000						6,600					
BIT DATA																																			
BIT NO.		SIZE		MFG.		TYPE		IADC CODE		SERIAL NO.		JETS (1/32nd") or TFA		IN		OUT		FOOTAGE		HOURS		ROP		MTR		RPM RT+MTR		WOB		DULL CONDITION T B G					
8		8.50		Sec		EBXS30S		537		10709700		12 12 12		7065				371		16.50		22.5		Y		30/120		40							
																						#DIV/0!													
HYDRAULICS																SLOW PUMP																			
PUMP NO.		MANUFACTURER		LINER		STROKE LENGTH		GAL / STK		SPM		GPM		AV DP		AV DC		PUMP PRESS.		MTR DIFF PRESS.		HHP / IN ²		ECD				69 spm		74 spm		73 spm			
1		National		6"		8.5		2.96		125		370						1100		100						1		480							
2		National		6"		8.5		2.96		125																2									
3		National		6"		8.5		2.96		125																3									
DRILL STRING																GEOLOGIC				GENERAL INFO															
BOTTOMHOLE ASSEMBLY				LENGTH		O.D.		I.D.		FORMATION		MD		TVD		LITHOLOGY		RIG INFO																	
8 1/2 Bit				1.00						Arapiean								Rig No Unit 111																	
Directional assmby				89.74						Twin Creek								Cell Narren 918-645-6671																	
				0						Navajo								Last BOP Test 7/17																	
18 5" SWDP				545.00						BOTTOMS UP TIME		BG GAS		CONN GAS		TRIP GAS		Next BOP Test 8/17																	
Jar				32.23														Last Safety Meeting 8/2																	
4 5" HWDP				120.00						GAS UNITS		FROM		TO		ROP (F/HR)		Last BOP Drill 8/2																	
Casing rollers				75.98														Last Operate Pipe Ran 8/1																	
																		Last Operate Blind Ran 8/1																	
Total BHA:				863.95														Last Operate Annular 8/1																	
STRING WT.		BHA WT.		PU WT.		SO WT.		ROT. TORQUE		GRD. ELEVATION		GL TO KB		KB ELEVATION		INTERMEDIATE CSG		LAST CASING NEXT CASING																	
175		78		300		125		350		5,839		17		5,856				13 3/8 @ 2448																	
SURVEYS																																			
MD		INCL		AZIMUTH		TVD		SECTION		N+ / S-		E+ / W-		DLS		TOOL		MD		INCL		AZIMUTH		TVD		SECTION		N+ / S-		E+ / W-		DLS		TOOL	
7,095		17.90		231.30		5976		3482		-2107		-2773		1.31		MWD		7,284		17.20		225.70		6156		3540		-2144		-2818		2.41		MWD	
7,190		18.20		232.40		6066		3512		-2125		-2796		0.48		MWD		7,379		16.40		216.70		6247		3567		-2164		-2836		2.86		MWD	
DAILY ACTIVITY																																			
FROM						LAST 24 HOURS:																													
0:00		6:00		6.00		TIH with 8 1/2" BHA, pick up 10 more torque reducer casing rollers.																													
6:00		7:00		1.00		Drill cement float collar and shoe from																													

Operator: Wolverine G&O Co of Utah, LLC

DAILY DRILLING REPORT

24 hrs - midnight to midnight

DATE									WELL		CONTRACTOR			COUNTY, STATE		SPUD DATE		API#		SUPERVISOR	
08/01/05									Wolverine Federal 19-1		Unit Rig #111			Sevier, UT		6/30/05		43-041-30033		George Urban	
DAYS F/ SPUD			PRESENT OPERATIONS @ MIDNIGHT							TOTAL DEPTH		PROGRESS		DRILLING TIME		ROP		FORMATION		AUTH. DEPTH	
33			TIH W/ 8 1/2 tools							7,065				0.00		#VALUE!		Arapiean		7750 md	

MUD DATA

WT	VIS.	WL	CK	PH	SAND	SOLIDS %	PV	YP	GELS	DEPTH	DATE/TIME	CHLORIDES	CALCIUM	MBT	SALT PPM
10.4	35		2/32	8.5	0.50	4.75	6	14	8/12	7065	8/1/08:00	168,000	3420		277,200

BIT DATA

BIT NO.	SIZE	MFG.	TYPE	IADC CODE	SERIAL NO.	JETS (1/32nd) or TFA			IN	OUT	FOOTAGE	HOURS	ROP	MTR	RPM RT+MTR	WOB	DULL CONDITION		
						T	B	G											
8	8.50	Sec	XS30	537		12	12	12	7065				#DIV/0!	Y	30/120				
													#DIV/0!						

HYDRAULICS

PUMP NO.	MANUFACTURER	LINER	STROKE LENGTH	GAL / STK	SPM	GPM	AV DP	AV DC	PUMP PRESS.	MTR DIFF PRESS.	HHP / IN ²	ECD		68 spm	74 spm	73 spm
1	National	6"	8.5	2.96	125	370			1800	150			1			
2	National	6"	8.5	2.96	125	370							2			
3	National	6"	8.5	2.96	125	370							3			

SLOW PUMP

		68 spm	74 spm	73 spm
1				
2				
3				

DRILL STRING

BOTTOMHOLE ASSEMBLY		LENGTH	O.D.	I.D.
8 1/2 Bit		1.00		
Directional assmly		89.74		
		o		
18 5" SWDP		545.00		
Jar		32.23		
4 5" HWDP		120.00		
Casing rollers		75.98		
Total BHA:		863.95		
STRING WT.	BHA WT.	PU WT.	SG WT.	ROT. TORQUE
160	89	275	160	375

GEOLOGIC

FORMATION	MD	TVD	LITHOLOGY
Arapiean			
Twin Creek			
Navajo			
GAS DATA			
BOTTOMS UP TIME	BG GAS	CONN GAS	TRIP GAS
	3-12		
SHOWS			
GAS UNITS	FROM	TO	ROP (FT/HR)
GRD. ELEVATION	GL TO KB	KB ELEVATION	INTERMEDIATE CSG
5,839	17	5,856	

GENERAL INFO

RIG INFO	
Rig No	Unit 111
Cell Narren	918-645-6671
Last BOP Test	7/17
Next BOP Test	8/17
Last Safety Meeting	8/1
Last BOP Drill	7/30
Last Operate Pipe Ram	8/1
Last Operate Blind Ram	8/1
Last Operate Annular	8/1
LAST CASING	NEXT CASING
13 3/8 @ 2448	

SURVEYS

[illegible]

DAILY ACTIVITY

[illegible]



WOLVERINE GAS AND OIL COMPANY
of Utah, LLC

Energy Exploration in Partnership with the Environment

December 14, 2005

Mr. David H. Murphy
Chief, Branch of Fluid Minerals
United States Department of the Interior
Bureau of Land Management
Utah State Office
P.O. Box 45155
Salt Lake City, UT 84145-0155

Re: Application of Paying Well Determination
Wolverine Federal 19-1
Wolverine Unit Area (UTU80800X)
Sevier County, Utah

RECEIVED

DEC 15 2005

DIV. OF OIL, GAS & MINING

Dear Mr. Murphy:

Wolverine Gas and Oil Company of Utah, LLC ("Wolverine"), as Unit Operator, has drilled and successfully completed the following described well within the Wolverine Unit Area (UTU80800X) under agreement dated effective July 28, 2003:

Well Name	Location	Completion Date	Producing Formation
Wolverine Federal 19-1	Town 23 South, Range 1 West Sec. 19: 1,373' FNL & 1,014' FEL (BHL) Sevier County, Utah	12/11/05	Navajo

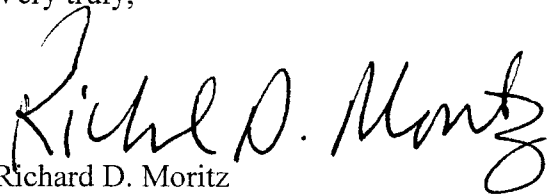
Enclosed for your review are detailed Engineering Economic Analysis for the Wolverine Federal 19-1 Well. I have also enclosed copies of the Daily Completion Reports and a copy of the Completion Report (Form 3160-4). Based on the analysis, Wolverine has determined that the well is capable of producing oil and associated hydrocarbons in paying quantities (i.e. quantities sufficient to repay the costs of drilling and producing operations, with a reasonable profit) from the Navajo formation. Therefore, we respectfully request the Bureau of Land Management's concurrence with such determination this well.

Mr. David H. Murphy
December 14, 2005
Page Two

Within the next couple of days, I will be mailing to you a Fourth Revision to our Navajo Formation Participating Area.

Please keep this letter and all of the enclosures confidential. If you have any questions or need any additional information, please don't hesitate to contact the undersigned.

Very truly,


Richard D. Moritz

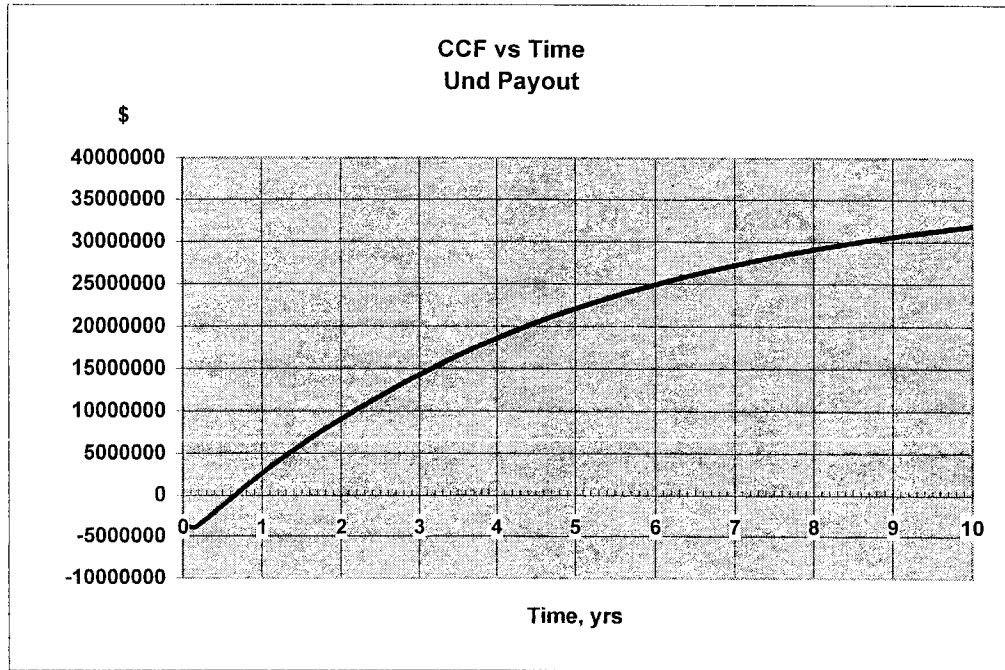
Enclosures

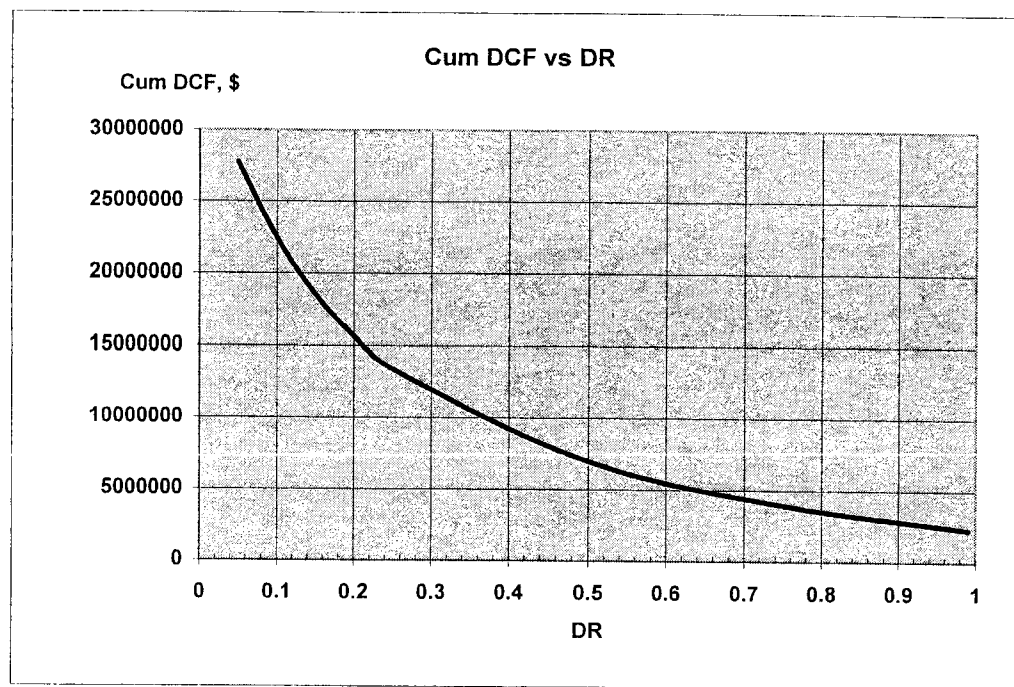
Year	Gross Production			Price			Net Production		
	Oil+Cond	Gas	Plnt Liq	Oil+Cond	Gas	Plnt Liq	Oil+Cond	Gas	Plant Liq
2005	0	0	0	#DIV/0!	\$3.50	\$22.00	0	0	0
2006	298162	1491	0	\$35.00	\$3.50	\$22.00	238529	1193	0
2007	244493	1222	0	\$35.00	\$3.50	\$22.00	185594	978	0
2008	200484	1002	0	\$35.00	\$3.50	\$22.00	160387	802	0
2009	164397	822	0	\$35.00	\$3.50	\$22.00	131518	658	0
2010	134805	674	0	\$35.00	\$3.50	\$22.00	107844	539	0
2011	110540	553	0	\$35.00	\$3.50	\$22.00	88432	442	0
2012	90643	453	0	\$35.00	\$3.50	\$22.00	72515	363	0
2013	74327	372	0	\$35.00	\$3.50	\$22.00	59462	297	0
2014	60948	305	0	\$35.00	\$3.50	\$22.00	48759	244	0
2015	49978	250	0	\$35.00	\$3.50	\$22.00	39982	200	0
2016	40982	205	0	\$35.00	\$3.50	\$22.00	32785	164	0
2017	33605	168	0	\$35.00	\$3.50	\$22.00	26884	134	0
2018	27556	138	0	\$35.00	\$3.50	\$22.00	22045	110	0
2019	22596	113	0	\$35.00	\$3.50	\$22.00	18077	90	0
2020	18529	93	0	\$35.00	\$3.50	\$22.00	14823	74	0
2021	15194	76	0	\$35.00	\$3.50	\$22.00	12155	61	0
2022	12459	62	0	\$35.00	\$3.50	\$22.00	9967	50	0
2023	10216	51	0	\$35.00	\$3.50	\$22.00	8173	41	0
2024	8377	42	0	\$35.00	\$3.50	\$22.00	6702	34	0
Remainder	20909	105	0	\$35.00	\$3.50	#DIV/0!	16727	84	0
Total	1639200	8196	0				1311360	6557	0

WGO Federal 19-1 Well

Cash Flow	Net Rev	St/Loc Tax	OpCost	OpInc	Cap Exp	Cash Flow	Cum CF	Dis CF	Cum DCF
Year	\$M	\$M	\$M	\$M	\$M	\$M	\$M	\$M	\$M
2005	\$0.00	\$0.00	\$0.00	\$0.00	\$3,815.50	-\$3,815.50	-\$3,815.50	-\$3,815.50	-\$3,815.50
2006	\$8,352.71	\$609.75	\$145.55	\$7,597.41	\$0.00	\$7,597.41	\$3,781.91	\$6,852.09	\$3,036.59
2007	\$6,849.22	\$499.99	\$137.79	\$6,211.43	\$0.00	\$6,211.43	\$9,993.34	\$5,092.81	\$8,129.40
2008	\$5,616.36	\$409.99	\$131.52	\$5,074.85	\$0.00	\$5,074.85	\$15,068.19	\$3,782.64	\$11,912.05
2009	\$4,605.41	\$336.20	\$126.49	\$4,142.73	\$0.00	\$4,142.73	\$19,210.92	\$2,807.16	\$14,719.20
2010	\$3,776.44	\$275.68	\$122.52	\$3,378.24	\$0.00	\$3,378.24	\$22,589.16	\$2,081.03	\$16,800.23
2011	\$3,096.68	\$226.06	\$119.45	\$2,751.17	\$0.00	\$2,751.17	\$25,340.33	\$1,540.68	\$18,340.91
2012	\$2,539.28	\$185.37	\$117.19	\$2,236.72	\$0.00	\$2,236.72	\$27,577.05	\$1,138.71	\$19,479.62
2013	\$2,082.21	\$152.00	\$115.67	\$1,814.53	\$0.00	\$1,814.53	\$29,391.58	\$839.80	\$20,319.42
2014	\$1,707.41	\$124.64	\$114.85	\$1,467.92	\$0.00	\$1,467.92	\$30,859.50	\$617.61	\$20,937.03
2015	\$1,400.08	\$102.21	\$114.74	\$1,183.13	\$0.00	\$1,183.13	\$32,042.63	\$452.54	\$21,389.57
2016	\$1,148.06	\$83.81	\$115.37	\$948.88	\$0.00	\$948.88	\$32,991.52	\$329.95	\$21,719.52
2017	\$941.41	\$68.72	\$116.83	\$755.86	\$0.00	\$755.86	\$33,747.37	\$238.93	\$21,958.45
2018	\$771.96	\$56.35	\$119.25	\$596.35	\$0.00	\$596.35	\$34,343.73	\$171.38	\$22,129.83
2019	\$633.01	\$46.21	\$122.83	\$463.97	\$0.00	\$463.97	\$34,807.69	\$121.21	\$22,251.04
2020	\$519.06	\$37.89	\$127.83	\$353.34	\$0.00	\$353.34	\$35,161.03	\$83.92	\$22,334.95
2021	\$425.63	\$31.07	\$134.63	\$259.93	\$0.00	\$259.93	\$35,420.96	\$56.12	\$22,391.07
2022	\$349.02	\$25.48	\$143.70	\$179.84	\$0.00	\$179.84	\$35,600.81	\$35.30	\$22,426.37
2023	\$286.20	\$20.89	\$155.68	\$109.62	\$0.00	\$109.62	\$35,710.43	\$19.56	\$22,445.94
2024	\$234.68	\$17.13	\$171.42	\$46.13	\$0.00	\$46.13	\$35,756.56	\$7.48	\$22,453.42
Remainder	\$585.74	\$42.76	\$964.31	-\$421.34	\$0.00	-\$421.34		-\$50.35	
Total	\$45,920.56	\$3,352.20	\$3,417.63	\$39,150.73	\$3,815.50	\$35,335.23		\$22,403.06	

WGO Federal 19-1 Well





Weatherford International Survey Report

Company: Wolverine Gas & Oil Co of Utah Date: 1/16/2006 Time: 09:27:24 Page: 1
Field: Covenant Field Co-ordinate(Ne) Reference: Well: Wolverine Federal 19-1, Grid
North
Site: Wolverine Federal #19-1(Pad B1) Vertical (TVD) Reference: KB 5856.0
Well: Wolverine Federal 19-1 Section (VS) Reference: User (0.00N,0.00E,233.32Azi)
Wellpath: 1 Survey Calculation Method: Minimum Curvature Db: Sybase

Field: Covenant Field
Sevier County, Utah
USA

Map System: US State Plane Coordinate System 1983 Map Zone: Utah, Central Zone
Geo Datum: GRS 1980 Coordinate System: Well Centre
Sys Datum: Mean Sea Level Geomagnetic Model: igrf2005

Site: Wolverine Federal #19-1(Pad B1)
Section 17 23S 1W Sevier County Utah
798' FSL & 1937' FWL

Site Position:	Northing:	6731032.57 ft	Latitude:	38 47 50.795 N
From: Geographic	Easting:	1516515.42 ft	Longitude:	111 56 4.933 W
Position Uncertainty:	0.00 ft		North Reference:	Grid
Ground Level:	5839.00 ft		Grid Convergence:	-0.28 deg

Well: Wolverine Federal 19-1 Slot Name:

Well Position: +N/-S 0.00 ft Northing: 6731032.57 ft Latitude: 38 47 50.795 N
+E/-W 0.00 ft Easting: 1516515.42 ft Longitude: 111 56 4.933 W
Position Uncertainty: 0.00 ft

Wellpath: 1		Drilled From:	Surface
		Tie-on Depth:	0.00 ft
Current Datum:	KB	Height 5856.00 ft	Above System Datum: Mean Sea Level
Magnetic Data:	6/9/2005	Declination:	12.55 deg
Field Strength:	51933 nT	Mag Dip Angle:	64.51 deg
Vertical Section:Depth From (TVD)		+N/-S	+E/-W
	ft	ft	deg
	0.00	0.00	233.32

Survey: Survey #1 Start Date: 8/9/2005

Company: Weatherford International
Tool: MWD;MWD - Standard

Engineer: Scott Wallace
Tied-to: From Surface

Survey: Survey #1

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	MWD
175.00	0.30	263.30	175.00	-0.05	-0.46	0.40	0.17	0.17	0.00	MWD
264.00	2.30	262.80	263.97	-0.30	-2.46	2.15	2.25	2.25	-0.56	MWD
357.00	5.30	257.90	356.76	-1.44	-8.51	7.69	3.24	3.23	-5.27	MWD
447.00	6.70	251.90	446.26	-3.94	-17.57	16.44	1.70	1.56	-6.67	MWD
538.00	7.20	236.20	536.60	-8.76	-27.35	27.17	2.15	0.55	-17.25	MWD
630.00	8.90	223.90	627.70	-17.10	-37.08	39.95	2.62	1.85	-13.37	MWD
720.00	11.30	215.50	716.30	-29.30	-47.03	55.22	3.12	2.67	-9.33	MWD
812.00	12.30	218.80	806.36	-44.27	-58.40	73.29	1.31	1.09	3.59	MWD
903.00	13.90	220.20	894.99	-60.18	-71.53	93.31	1.79	1.76	1.54	MWD
994.00	15.70	221.80	982.96	-77.71	-86.80	116.03	2.03	1.98	1.76	MWD
1088.00	15.10	234.50	1073.62	-94.30	-105.25	140.74	3.64	-0.64	13.51	MWD
1182.00	15.90	243.30	1164.21	-107.20	-126.72	165.66	2.64	0.85	9.36	MWD
1277.00	18.40	236.60	1254.99	-121.30	-150.87	193.45	3.35	2.63	-7.05	MWD
1371.00	17.80	243.40	1344.34	-135.90	-176.11	222.42	2.33	-0.64	7.23	MWD
1466.00	20.00	241.90	1434.22	-150.06	-203.42	252.78	2.37	2.32	-1.58	MWD
1560.00	18.60	243.30	1522.93	-164.37	-231.00	283.44	1.57	-1.49	1.49	MWD
1652.00	19.60	236.10	1609.88	-179.57	-256.92	313.31	2.78	1.09	-7.83	MWD
1747.00	23.50	236.60	1698.22	-198.89	-285.97	348.15	4.11	4.11	0.53	MWD
1842.00	24.80	237.80	1784.91	-219.94	-318.64	386.92	1.46	1.37	1.26	MWD
1937.00	26.10	235.20	1870.69	-242.48	-352.66	427.67	1.80	1.37	-2.74	MWD
2031.00	30.00	232.70	1953.63	-268.53	-388.35	471.86	4.33	4.15	-2.66	MWD
2126.00	32.90	232.70	2034.67	-298.57	-427.77	521.42	3.05	3.05	0.00	MWD
2221.00	35.10	232.40	2113.42	-330.87	-469.94	574.53	2.32	2.32	-0.32	MWD
2315.00	37.40	232.90	2189.22	-364.58	-514.13	630.11	2.47	2.45	0.53	MWD

Weatherford International
Survey Report

Company: Wolverine Gas & Oil Co of Utah Date: 1/16/2006 Time: 09:27:24 Page: 2
Field: Covenant Field Co-ordinate(N/E) Reference: Well: Wolverine Federal 19-1, Grid
North
Site: Wolverine Federal #19-1(Pad B1) Vertical (TVD) Reference: KB 5856.0
Well: Wolverine Federal 19-1 Section (VS) Reference: User (0.00N,0.00E,233.32Azi)
Wellpath: 1 Survey Calculation Method: Minimum Curvature Db: Sybase

Survey: Survey #1

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
2380.00	39.00	232.90	2240.30	-388.83	-546.19	670.30	2.46	2.46	0.00	MWD
2472.00	41.80	233.60	2310.36	-424.49	-593.97	729.92	3.08	3.04	0.76	MWD
2566.00	42.90	233.10	2379.83	-462.29	-644.77	793.24	1.22	1.17	-0.53	MWD
2661.00	45.20	231.30	2448.10	-502.79	-696.94	859.27	2.76	2.42	-1.89	MWD
2755.00	44.60	230.60	2514.69	-544.59	-748.47	925.57	0.83	-0.64	-0.74	MWD
2849.00	44.20	228.50	2581.85	-587.25	-798.51	991.18	1.62	-0.43	-2.23	MWD
2944.00	43.40	228.10	2650.42	-630.99	-847.61	1056.69	0.89	-0.84	-0.42	MWD
3039.00	42.30	230.40	2720.07	-673.17	-896.53	1121.12	2.01	-1.16	2.42	MWD
3133.00	44.10	231.10	2788.59	-713.87	-946.37	1185.40	1.98	1.91	0.74	MWD
3227.00	43.30	230.40	2856.55	-754.96	-996.66	1250.27	0.99	-0.85	-0.74	MWD
3322.00	42.20	230.10	2926.31	-796.19	-1046.24	1314.67	1.18	-1.16	-0.32	MWD
3416.00	40.80	229.90	2996.71	-836.23	-1093.95	1376.85	1.50	-1.49	-0.21	MWD
3511.00	40.20	232.60	3068.95	-874.84	-1142.05	1438.49	1.95	-0.63	2.84	MWD
3605.00	41.10	240.50	3140.32	-908.51	-1193.08	1499.52	5.56	0.96	8.40	MWD
3707.00	40.80	242.20	3217.36	-940.56	-1251.74	1565.71	1.13	-0.29	1.67	MWD
3801.00	39.80	244.10	3289.05	-968.02	-1305.97	1625.61	1.69	-1.06	2.02	MWD
3896.00	39.80	242.90	3362.04	-995.16	-1360.39	1685.46	0.81	0.00	-1.26	MWD
3990.00	39.40	240.50	3434.47	-1023.55	-1413.14	1744.73	1.68	-0.43	-2.55	MWD
4085.00	37.50	235.90	3508.88	-1054.62	-1463.34	1803.55	3.61	-2.00	-4.84	MWD
4179.00	37.10	232.60	3583.67	-1087.89	-1509.56	1860.49	2.17	-0.43	-3.51	MWD
4273.00	38.20	229.70	3658.10	-1123.91	-1554.26	1917.85	2.22	1.17	-3.09	MWD
4367.00	38.30	229.60	3731.92	-1161.59	-1598.61	1975.93	0.13	0.11	-0.11	MWD
4462.00	38.50	230.10	3806.37	-1199.63	-1643.71	2034.83	0.39	0.21	0.53	MWD
4556.00	38.50	231.10	3879.93	-1236.78	-1688.93	2093.27	0.66	0.00	1.06	MWD
4650.00	40.10	230.80	3952.67	-1274.28	-1735.16	2152.76	1.71	1.70	-0.32	MWD

4744.00	40.30	230.40	4024.47	-1312.80	-1782.04	2213.36	0.35	0.21	-0.43	MWD
4838.00	40.40	229.20	4096.11	-1352.08	-1828.53	2274.11	0.83	0.11	-1.28	MWD
4933.00	40.60	229.70	4168.35	-1392.19	-1875.41	2335.66	0.40	0.21	0.53	MWD
5027.00	42.10	230.10	4238.91	-1432.19	-1922.91	2397.65	1.62	1.60	0.43	MWD
5122.00	41.20	229.70	4309.89	-1472.85	-1971.20	2460.67	0.99	-0.95	-0.42	MWD
5216.00	39.80	227.80	4381.37	-1513.09	-2017.11	2521.52	1.99	-1.49	-2.02	MWD
5311.00	36.00	229.00	4456.32	-1551.84	-2060.72	2579.65	4.07	-4.00	1.26	MWD
5405.00	30.90	233.30	4534.74	-1584.42	-2100.95	2631.37	5.98	-5.43	4.57	MWD
5500.00	33.00	238.00	4615.36	-1612.71	-2142.46	2681.56	3.43	2.21	4.95	MWD
5594.00	34.00	239.60	4693.74	-1639.58	-2186.84	2733.20	1.42	1.06	1.70	MWD
5689.00	36.10	238.50	4771.51	-1667.64	-2233.62	2787.49	2.31	2.21	-1.16	MWD
5783.00	40.70	235.50	4845.16	-1699.49	-2282.52	2845.73	5.28	4.89	-3.19	MWD
5878.00	40.80	233.40	4917.14	-1735.54	-2332.97	2907.72	1.45	0.11	-2.21	MWD
5972.00	40.50	234.50	4988.46	-1771.58	-2382.47	2968.95	0.83	-0.32	1.17	MWD
6067.00	39.40	232.00	5061.29	-1808.06	-2431.35	3029.94	2.05	-1.16	-2.63	MWD
6160.00	36.10	228.10	5134.82	-1844.54	-2475.02	3086.75	4.38	-3.55	-4.19	MWD
6256.00	32.80	223.60	5213.99	-1882.28	-2514.02	3140.57	4.34	-3.44	-4.69	MWD
6350.00	31.10	223.80	5293.74	-1918.24	-2548.38	3189.61	1.81	-1.81	0.21	MWD
6444.00	28.90	225.20	5375.15	-1951.77	-2581.31	3236.05	2.46	-2.34	1.49	MWD
6546.00	25.40	227.30	5465.89	-1983.99	-2614.88	3282.22	3.56	-3.43	2.06	MWD
6640.00	23.60	229.70	5551.43	-2009.83	-2644.05	3321.05	2.19	-1.91	2.55	MWD
6735.00	22.70	232.00	5638.78	-2033.42	-2673.00	3358.36	1.34	-0.95	2.42	MWD
6861.00	20.80	235.20	5755.81	-2061.16	-2710.53	3405.03	1.78	-1.51	2.54	MWD
6962.00	19.90	234.70	5850.51	-2081.32	-2739.29	3440.14	0.91	-0.89	-0.50	MWD
7007.00	18.90	233.10	5892.95	-2090.13	-2751.37	3455.08	2.52	-2.22	-3.56	MWD
7095.00	17.90	231.30	5976.45	-2107.14	-2773.32	3482.85	1.31	-1.14	-2.05	MWD
7190.00	18.20	232.40	6066.78	-2125.32	-2796.47	3512.27	0.48	0.32	1.16	MWD
7284.00	17.20	225.70	6156.33	-2143.99	-2818.05	3540.73	2.41	-1.06	-7.13	MWD

Company: Wolverine Gas & Oil Co of Utah Date: 1/16/2006 Time: 09:27:24 Page: 3
 Field: Covenant Field Co-ordinate(NE) Reference: Well: Wolverine Federal 19-1, Grid

North

Site: Wolverine Federal #19-1(Pad B1) Vertical (TVD) Reference: KB 5856.0
 Well: Wolverine Federal 19-1 Section (VS) Reference: User (0.00N,0.00E,233.32Azi)
 Wellpath: 1 Survey Calculation Method: Minimum Curvature Db: Sybase

Survey: Survey #1

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
7379.00	16.40	216.70	6247.29	-2164.55	-2836.12	3567.51	2.86	-0.84	-9.47	MWD
7473.00	16.90	215.30	6337.35	-2186.34	-2851.95	3593.22	0.68	0.53	-1.49	MWD
7568.00	16.20	208.50	6428.43	-2209.26	-2866.25	3618.38	2.17	-0.74	-7.16	MWD
7662.00	15.20	205.10	6518.92	-2231.94	-2877.74	3641.14	1.45	-1.06	-3.62	MWD
7757.00	14.20	207.20	6610.81	-2253.59	-2888.34	3662.58	1.19	-1.05	2.21	MWD
7858.00	14.20	207.20	6708.72	-2275.62	-2899.67	3684.82	0.00	0.00	0.00	PROJECTED

Daily Completion Report

Wolverine Gas & Oil Company of Utah, LLC
Wolverine Federal #19-1 well
SE SW Sec 17 T23S - R01W
Sevier Co., Utah

page 1 of 1

New Completion

7" 23# HCP110 @ 7858' TD

PBTD 7814' on 8/6/05; CBL TD 7808' on 11/20/05

Perfs - Upr NVJO 7335-7457 (proposed)

Perfs - Lwr NVJO 7570-7580 11/21/05

ESP intake set @ xxxx' md (~xxxx' tvd) on xxxx
GL to RKB: 17'

"TIGHT HOLE"

11/21/05

FIRST COMPLETION REPORT - during October 2005, cleaned location, installed 11" 5m x 11" 5m csg spool plus 11" 5m x 7-1/16" 5m tbg head with (2) 2-1/16" 5m gate valves w/ single valve tree, installed flowline from wellhead to pig launcher at edge of location. Installed conduits for ESP cabling, air, chemical & communications. Haul in 4% KCL treating fluid and flowback tanks. Offload 2-7/8" 6.5ppf L80 EUE 8rd new tbg. 11/20/05 - RU AAA Crane Service to hold WellServ WLU, run VD-CBL w/ GR/CCL from LTD of 7808' to top of good cement @ 6322'. MIRU Nabors (Pool) Well Service Unit @ 4pm on 11/20/05 w/ pump & steel pit. ND wellhead & flowline, set up pipe racks & load with tbg & strap. RIH w/ 7" csg scraper & 255 jts 2-7/8" tbg, tag TD @ 7810, tree up & RU Halco, hold safety mtg, pump 50 bbl tubular cleanup job consisting of caustic wash, chemical wash, gel water & 7.5% HCL. Displace down csg @ 2 bpm & 350 psi with 299 bbl 4% KCL to surface. Hole clean after 270 bbls, RD Halco. SWI&SDFN @ 3:30am. Plan: perf Lwr NVJO CMOL: Steve Hash

Est Daily Completion Cost \$ 73,690

Est Cumulative Comp Cost \$ 421,169 (incl csg,FL,WH,tbg) Completion AFE \$ 856,438

Est Dryhole Cost \$ 2,287,354 Dryhole AFE \$ 2,111,388

Est Total Well Cost to date \$ 2,708,523 Total Well Cost AFE \$ 2,967,826

11/22/05

NU BOPE, RU swab, swab fluid in csg down to 3000' fs (2700' TVD), POOH, RU WLU, perforate Lwr Navajo transition zone 7570'-7580' w/ 4" slick gun, 4 jpf, 40 holes, 90 degr phase, 39gm, 43 hole, 59" penetration. POOH, RD WLU, no evident change in fluid level. TIH w/ 4 jts tbg, csg pkr, 1 jt tbg, 2.25 in id SN and 242 jts of tbg, set EOT @ 7575' w/ pkr @ 7450 & SN @ 7419. Load annulus with 65 bbl 4% KCL (25 bbl less than calculated - conclude fluid entry) and PT pkr & BOPE to 800 psi, OK SWI&SDFN. Tomorrow's plan: swab test Lwr NVJO. CMOL: Steve Hash

Est Daily Completion Cost \$ 21,190

Est Cumulative Comp Cost \$ 442,359

11/23/05

12 hr SITP zero (Lwr NVJO 7570'-7580')

BFL 300' fs, made 20 swab runs in 8 hrs, swabbed well down to 3800' in 8 runs in 3 hrs, fluid level remained at 4000' remainder of day, recovered 27 BLW & 151 BNW, no shows of oil or gas; sample @ 130 BNW - SG 1.016; pH 7.0. SWI & SDFN @ 4pm. Plan: Shut down for Thanksgiving until Monday 11/28, then set CIBP & move to Upr NVJO. CMOL: Steve Hash

Est Daily Completion Cost \$ 7,190

Est Cumulative Comp Cost \$ 449,549

11/24/05

Shut down for Thanksgiving from Wed 11/23 thru Sun 11/27

to

11/28/05

11/29/05

SITP zero (Lwr NVJO 7570'-7580')

BFL 300' fs, made 1 swab run & recv 9 BNW, no show oil or gas. Released pkr and POOH w/ tbg. RU Weatherford WLU & run JB/GR to 7550' in 7" csg. Pick up 7" CIBP and trip in hole, had trouble with WLU computer, resolved, set CIBP @ 7530' kb, RD WLU. Load csg w/ 4% and pressure test to 1500 psi, ok. Drain up, 20 degF, SDFN @ 8pm. Recovered 27 BLW & 160 BNW, no show from 7570-7580'. Plan: Perf Lwr NVJO & swab natural b4 acid breakdown on Thursday. CMOL: SHash

Est Daily Completion Cost \$ 22,640

Est Cumulative Comp Cost \$ 472,549

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Daily Completion Report

page 2 of 2

Wolverine Gas & Oil Company of Utah, LLC
Wolverine Federal #19-1 well
SE SW Sec 17 T23S - R01W
Sevier Co., Utah

New Completion

7" 23# HCP110 @ 7858' TD
PBTD 7814' on 8/6/05; CBL TD 7808' on 11/20/05
Perfs - Upr NVJO 7335-7457 (11/29/05)
Perfs - Lwr NVJO 7570-7580 (CIBP @ 7530')
ESP intake set @ xxxx' md (~xxxx' tvd) on xxxx
GL to RKB: 17'

"TIGHT HOLE"

11/30/05 SICP zero (no perfs)
TIH w/ SN & tbg to 3500', RU swab, swab fluid level in csg to 2650' in 10 runs, POOH. RU Precision/Weatherford WLU. Perforate Upper Navajo as follows thru casing per Spectral Density - Dual Spaced Neutron log dated 04-Aug-2005.

Set	Formation	Interval	Ft	Jpf	Holes	Chg	Phasing	Hole size
(1)	Upr Navajo 1	7335-7345	10	4 jpf	40	25gm	90	.41
(2)	Upr Navajo 1	7360-7379	19	4 jpf	76	25gm	90	.41
(3)	Upr Navajo 1	7391-7405	14	4 jpf	56	25gm	90	.41
(4)	Upr Navajo 1	7414-7417	3	4 jpf	12	39gm	90	.43
(5)	Upr Navajo 1	7430-7440	10	4 jpf	40	39gm	90	.43
(6)	Upr Navajo 1	7454-7457	3	4 jpf	12	39gm	90	.43
	Total	122gr/59n	59	4 jpf	236			

BFL 2650' fs, perf in following order 6,5,4,2,3,1 in 3 runs, 1 misfire run. Fluid level came up to 2345' after perf set 2, then up to 2319' after perf set 3; standby WLU. TIH w/ TS RBP, ball catcher, 6' sub, HD pkr, 1 jt tbg, SN, 1 jt tbg, 6' sub and 235 jts tbg, hang in slips. RU WLU w/ 1-11/16" GR/CL. Log in tools, make 10 ft correction down. Could not determine fluid level, POOH, RD WLU. SWI&SDFN @ 9pm. Plan: swab test natural, acid set for Thursday. CMOL: Steve Hash

Est Daily Completion Cost \$ 29,190

Est Cumulative Comp Cost \$ 501,379

Est Total Well Cost to date \$ 2,788,733

Total Well Cost AFE \$ 2,967,826

12/01/05 SITP 10 psi (Upr NVJO 7335-7457)
TIH & attempt to set RBP @ 7385', would not set (deviated hole). Set pkr ok, released ok, worked with RBP 2 hrs unsuccessful, then POOH with tools, laydown RBP. No evident problem with RBP, wait 2 hrs for replacement RBP. Pick up new RBP, TIH with RBP & pkr assy, set RBP @ 2500' & 6300' for test, ok. TIH to 7385', worked to set RBP for 1-1/2 hrs, finally set @ 7385' w/ pkr @ 7290'. Drain lines & SWI&SDFN @ 8pm. Plan: swab test natural, acid reset for Friday. CMOL: Steve Hash

12/02/05 SITP psi (Upr NVJO 7335-7457)
Swab test perf set 1 & 2 (7335' - 7379') RU swab, made 10 runs in 3.5 hrs & recovered 95 bbls total, 42 blw & 53 bbls formation fluid, last 4 samples 95% oil, trace sand while swabbing. EFL 3300'. RD swab, load tbg, released tools, straddle perf set 3 & 4 (7391-7417') RU swab, made 8 runs in 3 hrs & recovered 92 bbls total, 42 blw & 50 bbls formation fluid, last 4 samples 95% oil, trace sand again, EFL @ 4600'. RD swab, load tbg, released tools, straddle perf set 5 & 6 (7430-7457). RU swab, made 6 runs in 2 hrs & recovered 71 bbls total fluid, 42 blw & 29 bbls formation fluid, last run 90% oil, EFL 5300'. Drain lines & SWI&SDFN @ 8pm. MIRU Halco. Plan: acidize. This am 11 hr SITP 400 psi, (7430-7457) SICP 0 psi CMOL: Steve Hash

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Daily Completion Report

Wolverine Gas & Oil Company of Utah, LLC
Wolverine Federal #19-1 well
SE SW Sec 17 T23S - R01W
Sevier Co., Utah

page 3 of 3

New Completion

7" 23# HCP110 @ 7858' TD

PBTD 7814' on 8/6/05; CBL TD 7808' on 11/20/05

Perfs - Upr NVJO 7335-7457 (11/29/05)

Perfs - Lwr NVJO 7570-7580 (CIBP @ 7530')

ESP intake set @ xxxx' md (~xxxx' tvd) on xxxx
GL to RKB: 17'

"TIGHT HOLE"

12/03/05

6am Finish RU Halco to acidize, HSF. 11 hr SITP 400 psi, (7430-7457) SICP 0 psi
All fluid NeFeHCl w/ inhibitor, morflo III surfactant & chem.-pen surfactant. Load tbg with 15 BW, well
not dead, release pkr, reverse hole with 45 BW, well static, run pkr to 7460, spot 600 gal acid 1 bbl
across btm perf set 5-6, set pkr @ 7426, pressured zone repeatedly to 1600, 1800, 2000 and then
2200 psi over 30 min period, broke after 3.5 bbls KCl displacement gone @ 2200 psi, communicated
to annulus @ ~0.78 psi/ft. Reset pkr @ 7386' above perf sets 3-4-5-6, left RBP below all perfs.
Pressured 3-4-5-6 to 1600 and then 1800 psi several times, communicated at 1800 psi to annulus
with 1/2 bbl gone. Moved RBP to 7390' and pkr to 7358', straddle set 2. Spot 1800 gal acid 1 bbl
across perfs, set pkr @ 7358', pressure set 2 to 1600 psi, pump in @ 0.1 to 0.5 bpm for 4 bbls,
communicate to annulus, increase rate down tbg while pumping 1/4 bpm down csg into set 1 @ 2100
psi. Pump 3600 gal acid with 125 ball sealers (7/8" x 1.1 sg) into set 2 @ 4bpm @ 2500 psi, 20-30
psi ball action, overflush with 10 bbls 4% KCl. ISDP 600 psi. Move RBP to 7360' and pkr to 7250'.
Pump 1800 gal acid and 80 ball sealers (7/8" x 1.1 sg) into set 1 @ 5-6 bpm @ 2700 psi, 20-50 psi
ball action, overflush with 10 bbls 4% KCl, ISDP 800 psi. 204 BLWTR. RD Halco. Latch RBP w/
ball catcher, reset pkr @ 7250' w/ RBP swinging, RU swab @ 4pm, BFL 300' fs, swabbed 76 BLW to
pit, deepest run 1600', had trouble with acid gas pockets between 800 - 1600'. Well KO flwg at 9pm
to pit, switched to tank at 10pm cutting 50% oil, ftp zero on open chk. Split rig crew for flow testing.
Flowed 120 bbls fluid to tank next 2 hrs, last sample 95% oil. Put well on 14/64" chk, 250 psi FTP,
recovered 188 bbls fluid with trace of water next 6 hrs, avg 31 bophr. All treatment load recovered.
This am FTP 250 psi on 14/64" chk; Upr NVJO 7335-7457 Plan: flow test CMOL: Steve Hash
Est Daily Completion Cost \$ 71,985
Est Cumulative Comp Cost \$ 602,259

12/04/05

Finished laying 2" tbg test lines to temp frac tank battery
Flw'd 780 bbls fluid w/ trace water on 15/64" chk in 25 hrs (6am Sat to 7am Sun) FTP 250 psi this am
Est Daily Completion Cost \$ 5,690
Est Cumulative Comp Cost \$ 607,949

12/05/05

Flowed 751 bbls fluid w/ trace water on a 15/64" chk in 24 hrs (7am Sun to 7am Mon) FTP 260 psi
this am. Received 500 bbl KCl water and continued laying test lines. Plan: SWI @ 7am, trip tbg &
tools, run pkr & BHP gauges.
Est Daily Completion Cost \$ 7,724
Est Cumulative Comp Cost \$ 615,673
Est Total Well Cost to date \$ 2,903,027

Total Well Cost AFE \$ 2,967,826

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Daily Completion Report

Wolverine Gas & Oil Company of Utah, LLC
Wolverine Federal #19-1 well
SE SW Sec 17 T23S - R01W
Sevier Co., Utah

page 4 of 4

New Completion

7" 23# HCP110 @ 7858' TD
PBSD 7814' (8/6/05); CBL TD 7808' (11/20/05)
Perfs - Lwr NVJO 7570-7580 (CIBP @ 7539')
Perfs - Upr NVJO 7335-7457 (11/29/05)
EOT @ 7280; SN @ 7267; pkr @ 7253 (12/5/05)
GL to RKB: 17'

"TIGHT HOLE"

12/06/05 7am FTP 260 psi on a 15/64" chk, shut well in, RU pump lines, release pkr & reverse 55 bbls 4% KCl, well static. POOH w/ tbg and laydown tools, wait 6 hrs for pressure recorder no-go, arrive @ 5pm, make up recorder with 2.30" no-go x 11.72' overall. Pick up (1) 2-7/8" 6.5ppf N80 EUE tbg sub w/ cplg on btm for WLEG (6.10'), (1) 2-7/8" 6.5ppf N80 EUE tbg sub (6.20'), (1) 2-7/8" EUE SN (id 2.250"), (1) 2-7/8" 6.5ppf N80 EUE tbg sub perforated (6.05'), (1) 7" Arrow 1X csg pkr (7.42' x 2.375" id), and TIH w/ 237 jts 2-7/8" 6.5ppf L80 EUE tbg (7251.10'); 7277.97' overall, (+)15' below kb, (-) 10' WL correction, (-) 3' compression; EOT set @ 7280, recorders set @ 7272' (124' above mpp), SN @ 7267, pkr @ 7253 w/ 20k down. Land tbg w/ hanger, ND BOPE, install ESP wellhead, connect well to flowline, RU to swab, swabbed 52 bbls and well KOF @ 11pm to test tank, set chk @ 15/64", FTP 190 psi. Flow well overnight from 11pm to 7am and recovered 242 bbls, trace water, this am FTP 250 on a 15/64" chk. Plan: stabilize then SWIFPBU CMOL: Steve Hash
Est Daily Completion Cost \$ 16,848
Est Cumulative Comp Cost \$ 633,536

12/07/05 7am FTP 250 on a 15/64" chk, flowed well from 7am (12/6) until 12 noon; recovered 153 bbls as follows:

Period	Choke	FTP	Recovery	Remarks
7am-8am	15/64"	250	30	
8am-9am	15/64"	250	31	
9am-10am	15/64"	250	30.5	
10am-11am	15/64"	250	31	
11am-12pm	15/64"	250	30.5	
			153	

12:05pm

1:05 pm

2:00 pm

4:00 pm

7:00 am

Bbls total in 5 hrs w/ slight trace wtr in samples; no measurable water in 4 full frac tanks after test

Shut well in 12:05pm on Tuesday 12/06/05 - out of tank room

No reading

2 hr

4 hr

19 hr

12/08/05 7 am (12/7) SITP 410 psi (19 hr) - end of 72 hr test will be 12 noon on Friday 12/9/05
Swabbed & flowed approximately 2431 bbls oil during testing thusfar; prep to sell. Oil gravity 41.1 API

12/09/05 7am (12/8) SITP 410 psi (43 hr)

12/10/05 7am (12/9) SITP 410 psi (67 hr)

12/11/05 12noon (12/9) SITP 410 psi (72 hr) RU PLS slickline, retrieve BHP gauges from 7270', RD PLS, returned data sheet & auto-clock to PLS, leave well shut-in pending first sales. CMOL: Steve Hash
Est Daily Completion Cost \$ 6,335
Est Cumulative Comp Cost \$ 639,871
Est Dryhole Cost \$ 2,287,354
Est Total Well Cost to date \$ 2,927,225
Completion AFE \$ 856,438
Dryhole AFE \$ 2,111,388
Total Well Cost AFE \$ 2,967,826

TURNED WELL OVER TO PRODUCTION @2pm 12/09/05 -FINAL COMPLETION REPORT Thank you!

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United States Department of the Interior

BUREAU OF LAND MANAGEMENT

Utah State Office
P.O. Box 45155
Salt Lake City, UT 84145-0155



IN REPLY REFER TO
3180
UT-922

Wolverine Gas and Oil Corporation
Attn: Richard D. Moritz
One Riverfront Plaza
55 Campau, N.W.
Grand Rapids, Michigan 49503-2616

Re: 4th Revision of the Navajo Formation PA
Wolverine Unit
Sanpete and Sevier Counties, Utah

Gentlemen:

The 4th Revision of the Navajo Formation Participating Area, Wolverine Unit, UTU80800A, is hereby approved effective as of December 1, 2005, pursuant to Section 11 of the Wolverine Unit Agreement, Sanpete and Sevier Counties, Utah.

The 4th Revision of the Navajo Formation Participating Area results in an addition of 163.36 acres to the participating area for a total of 798.77 acres and is based upon the completion of Well No. 19-1, API No. 43-041-30033, located in Lot 8 of Section 18, Township 23 South, Range 1 West (BHL), SLM&B, Federal Unit Tract No. 6, Federal Lease UTU73528, as being a well capable of producing unitized substances in paying quantities.

Copies of the approved request are being distributed to the appropriate agencies and one copy is returned herewith. Please advise all interested parties of the establishment of the 4th Revision of the Navajo Formation Participating Area, Wolverine Unit, and the effective date.

Sincerely,

/s/ David H. Murphy

David H. Murphy
Acting Chief, Branch of Fluid Minerals

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Enclosure

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DIV. OF OIL, GAS & MINING



WOLVERINE OPERATING COMPANY
of Utah, LLC

Energy Exploration in Partnership with the Environment

February 6, 2006

CONFIDENTIAL

Ms. Carol Daniels
Utah Division of Oil Gas & Mining
1594 W.N. Temple, Suite 1210
Salt Lake City, UT 84114-5801

Re: Wolverine Federal #19-1

Dear Al:

Enclosed please find the following documents for the above referenced well:

- three copies of BLM completion form #3160-4
- directional survey
- geologic report
- mudlog
- Spectral Density, Dual Space Neutron, GR MD & TVD
- HRI MD & TVD
- EMI
- MRIL

Please let me know if you need additional information or have other concerns.

Sincerely,

Helene Bardolph

enclosures

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DIV. OF OIL, GAS & MINING

COPY

Form 3160-4
(April 2004)UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

FORM APPROVED
OMBNO. 1004-0137
Expires: March 31, 2007

1a. Type of Well ☒ Oil Well ☐ Gas Well ☐ Dry ☐ Other

b. Type of Completion: ☒ New Well ☐ Work Over ☐ Deepen ☐ Plug Back ☐ Diff. Resvr.,
Other _____

2. Name of Operator **Wolverine Gas & Oil Co. of Utah, LLC**

3. Address **55 Campau NW, Grand Rapids, MI 49503**

3a. Phone No. (include area code) **616-458-1150**

4. Location of Well (Report location clearly and in accordance with Federal requirements)*
At surface **857' 1919' FSL & 1937' FWL, Sec. 17, T23S, R1W**
At top prod. interval reported below **1235' FNL & 921' FEL, Sec. 19, T23S, R1W**
At total depth **1376' FNL & 1014' FEL, Sec. 19, T23S, R1W**

5. Lease Serial No. **UTU-73528**

6. If Indian, Allottee or Tribe Name **N.A.**

7. Unit or CA Agreement Name and No. **Wolverine Fed Exploration Unit**

8. Lease Name and Well No. **Wolverine Federal 19-1**

9. AFI Well No. **4304130033**

10. Field and Pool, or Exploratory **Covenant Field**

11. Sec., T., R., M., on Block and Survey or Area **17, T23S, R1W, SESW, SLB&M**

12. County or Parish **Sevier** 13. State **UT**

16. Date Completed **12/11/2006**
☐ D & A ☒ Ready to Prod.

17. Elevations (DF, RKB, RT, GL)* **5856' KB, 5839' GL**

18. Total Depth: MD **7858'** TVD **6709'**

19. Plug Back T.D.: MD **7814'** TVD **6666'**

20. Depth Bridge Plug Set: MD **7530'** TVD **6392'**

22. Was well cored? ☒ No ☐ Yes (Submit analysis)
Was DST run? ☒ No ☐ Yes (Submit report)
Directional Survey? ☐ No ☒ Yes (Submit copy)

21. Type Electric & Other Mechanical Logs Run (Submit copy of each)
HRI/GR, SDL/DSN/GR, MRIL, EMI, MUD LOG

23. Casing and Liner Record (Report all strings set in well)

Hole Size	Size/Grade	Wt. (#/ft.)	Top (MD)	Bottom (MD)	Stage Cementer Depth	No. of Sks. & Type of Cement	Slurry Vol. (BBL)	Cement Top*	Amount Pulled
30.0"	20"	0.25 wall	Surface	120		650 Class G	133	Surf. (CIRC)	
17.5"	13-3/8"	61.0	Surface	2448		675 CBM	495	Surf. (CIRC)	
"	"	"				475 Type V	100		
"	"	"				200 Class G	42		
12.25"	9-5/8"	47.0	Surface	7051		230 50/50 Poz	70	6000 (CAL)	
8.5"	7"/P-110	23.0	Surface	7858		215 50/50 Poz	47	5724 (CBL)	

Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)
2 7/8	7250	NA						

25. Producing Intervals

Formation	Top	Bottom	Perforated Interval	Size	No. Holes	Perf. Status
A) Navajo	7237	7858	7570-7580	0.43"	40	below CIBP
B) Navajo	7237	7858	7335-7457	0.43"	236	open
C)						
D)						

27. Acid, Fracture, Treatment, Cement Squeeze, etc.

Depth Interval	Amount and Type of Material
7335-7457	6000 gal NeFeHCl w/ inhibitor & surfactant

28. Production - Interval A

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
	11/23/2005	8	→	0	0	151			Swabbing
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas/Oil Ratio	Well Status	
			→						

28a. Production - Interval B

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
	12/06/2005	24	→	679	Tr	0			Flowing
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas/Oil Ratio	Well Status	
	12.5/64	0	→	679	Tr	0	nil		Producing Oil Well

*(See instructions and spaces for additional data on page 2)

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28b. Production - Interval C

Date First Produced	Test Date	Hours Tested	Test Production →	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate →	Oil BBL	Gas MCF	Water BBL	Gas/Oil Ratio	Well Status	

28c. Production - Interval D

Date First Produced	Test Date	Hours Tested	Test Production →	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate →	Oil BBL	Gas MCF	Water BBL	Gas/Oil Ratio	Well Status	

29. Disposition of Gas (Sold, used for fuel, vented, etc.)

Vented

30. Summary of Porous Zones (Include Aquifers):

Show all important zones of porosity and contents thereof: Cored intervals and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures and recoveries.

31. Formation (Log) Markers

Formation	Top	Bottom	Descriptions, Contents, etc.	Name	Top
					Meas. Depth
Navajo	7237'	7858'	Oil & water	Arapien Twin Creek Navajo	Surface 6848' 7237'

32. Additional remarks (include plugging procedure):

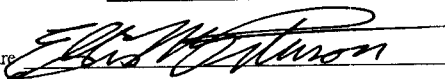
33. Indicate which items have been attached by placing a check in the appropriate boxes:

- ☒ Electrical/Mechanical Logs (1 full set req'd.)
 ☒ Geologic Report
 ☐ DST Report
 ☒ Directional Survey
☐ Sundry Notice for plugging and cement verification
☐ Core Analysis
☐ Other:

34. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records (see attached instructions)*

Name (please print) Ellis PetersonTitle Sr. Production Engineer

Signature


Date 01/18/2006

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

CONFIDENTIAL (Form 3160-4, page 2)

INSTRUCTIONS

GENERAL: This form is designed for submitting a complete and correct well completion/recompletion report and log on all types of wells on Federal and Indian leases to a Federal agency, pursuant to applicable Federal laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from, the local Federal office.

If not filed prior to the time this summary record is submitted, copies of all currently available logs (drillers, geologists, sample and core analysis, and all types electric), formation and pressure tests, and directional surveys, should be attached hereto, to the extent required by applicable Federal laws and regulations. All attachments should be listed on this form, see item 33.

ITEM 4: Locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local Federal office for specific instructions.

ITEM 17: Indicate which reported elevation is used as reference (where not otherwise shown) for depth measurements given in other spaces on this form and in any attachments.

ITEM 23: Show how reported top(s) of cement were determined, i.e. circulated (CIR), or calculated (CAL), or cement bond log (CBL), or temperature survey (TS).

PRIVACY ACT

The Privacy Act of 1974 and the regulation in 43 CFR 2.48 (d) provide that you be furnished the following information in connection with information required by this application.

AUTHORITY: 30 U.S.C. 181 et seq., 351 et seq., 25 U.S.C. et seq.; 43 CFR 3160.

PRINCIPAL PURPOSE: The information is to be used to evaluate the actual operations performed in the drilling, completing and testing of a well on a Federal or Indian lease.

ROUTINE USES: (1) Evaluate the equipment and procedures used during the drilling and completing/recompleting of a well. (2) The review of geologic zones and formation encountered during drilling. (3) Analyze future applications to drill in light of data obtained and methods used. (4)(5) Information from the record and/or the record will be transferred to appropriate Federal, State, local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecutions.

EFFECT OF NOT PROVIDING INFORMATION: Filing of this report and disclosure of the information is mandatory once a well drilled on a Federal or Indian lease is completed/recompleted.

The Paperwork Reduction Act of 1995 requires us to inform you that:

This information is being collected to allow evaluation of the technical, safety, and environmental factors involved with drilling and completing/recompleting wells on Federal and Indian oil and gas leases.

This information will be used to analyze operations and to compare equipment and procedures actually used with those proposed and approved.

Response to this request is mandatory only if the operator elects to initiate drilling and completing/recompleting operations on an oil and gas lease.

BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

BURDEN HOURS STATEMENT

Public reporting burden for this form is estimated to average 60 minutes per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to U.S. Department of the Interior, Bureau of Land Management (1004-0137), Bureau Information Collection Clearance Officer, (WO-630), MS 401 LS, 1849 C Street, N.W., Washington, D.C. 20240.

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WOLVERINE GAS & OIL COPORATION

**WOLVERINE FEDERAL #19-1
NE/NE SEC.19.T23S, R1W
SEVIER CO., UT**

**RECEIVED
FEB 09 2006**

WOLVERINE GAS & OIL CO.

6034

GEOLOGIC REPORT
ON
WOLVERINE FEDERAL #19-1
SE/NW SEC.19.T23S, R1W
SEVIER CO., UT
FOR
WOLVERINE GAS & OIL CORPORATION
ONE RIVER FRONT PLAZA
55 CAMPAU NW
GRAND RAPIDS, MI 49503-2616

TABLE OF CONTENTS

Well Data Summary.....	1
Formation Tops.....	2
Formation Evaluation.....	3
Bit Record.....	4
Daily Drilling Summary.....	5
Deviation Surveys.....	6
Sample Descriptions.....	9

August 2005

Decollement Consulting, Inc
Roger D. Charbonneau, B.Sc.
Geologist

00451005-0001

WELL DATA SUMMARY

WELL NAME	WOLVERINE FEDERAL #19-1
OPERATOR	WOLVERINE GAS & OIL CORP
BOTTOM HOLE LOCATION	NE/NE SEC.19.T23S, R1W SEVIER COUNTY, UT
API #	043 - 041- 30033
WELL CLASSIFICATION	DEVELOPMENT COVENANT FIELD
DRILLING CONTRACTOR	UNIT #111
ELEVATION - GROUND LEVEL	5839'
KELLY BUSHING	5856'
SPUD DATE	6-30-05
SURFACE CASING	2448' OF 13 3/8"
INTERMEDIATE CASING	7060' OF 9 5/8"
PRODUCTION CASING	7858' OF 7"
HOLE SIZE	17 ½ ", 12 ¼", 8 ½ "
SAMPLE INTERVAL	2440 - 7858
GAS DETECTION	2466 - 7858
OPEN HOLE LOGS	GR, SP, CAL, HRI, SD-DSN, DIP METER, EMRL
MUD TYPE	SATURATED SALT, FLOZAN
WELL STATUS	AWAITING COMPLETION

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FORMATION TOPS

Kelly Bushing 5753'

Formation	Prog.(tvd)	Spl. Top (md)	Spl. Top(tvd)	Log Top(md)	Log Top(tvd)	Sub Sea
Arapien		Surface				
Twin Creek		5563	6856	5750	6846	5741 115
Navajo		5931	7252	6129	7237	6109 -253
TD		7858				

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FORMATION EVALUATION**WOLVERINE GAS & OIL CORPORATION
WOLVERINE FEDERAL #19-1
NE/NE SEC.19.T23S, R1W
SEVIER COUNTY, UT**

The Wolverine Federal #19-1 was the second well drill on the "B" pod (17-2 site), and the ninth well drilled in the Covenant Field. Decollement Consulting began sample coverage at 2470' on Unit Rig #111, on July 16, 2005. Crews collected 30' samples to total depth. Surface casing (13 3/8") was set to 2448', and 12 1/4" drilled to 7060'. Intermediate casing (9 5/8") was set at 7048' and 7" production casing was run to total depth (7858'). A full suite of logs was ran including dip meter and EMRL. Gas detection was ran from 2470' to 7858'.

Navajo Sandstone 6109 TVD log -2530 Sub See.

The Navajo Sandstone was white, clear, light brown, light red orange, quartzose, fine grained (lower) to medium grained (upper), sub angular to rounded, fair to poor sorted, clay matrix, siliceous cement, 65 to 98% unconsolidated, friable, brown oil stain, strong hydrocarbon odor, rainbows, yellow gold residual ring cut, 10-14% intergranular porosity.

Conclusion: Oil saturated reservoir - awaiting completion.

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BIT RECORD

WELL NAME **WOLVERINE FEDERAL #19-1**
LOCATION **NE/NE SEC. 19, T23S, R1W**
SURFACE CASING **2448' OF 13 3/8**
SPUD DATE **6-30-05**
TD DATE **8-06-05**

BIT	1 (RR)	2(RR)	3(RR)	4	5
SIZE	17 ½	17 ½	17 ½	12 ¼	12 ¼
MAKE	STC	STC	GTC	RTC	RTC
TYPE	XRVC	MGSS2C	X7409	HP43A	HP53A
SERIAL #	MR5481	MJ38020	802085	B73542	PB4480
JETS	2X29, 1X22	4X29	4X28	3X24	3X24
OUT @	1680	1945	2448	3738	4769
FOOTAGE	1540	286	500	1289	1000
HOURS	99 ½	67 ½	60 ½	57	58 ½
WT	6	45	45	35	35
RPM	0/20	0/40	0/30	0/30	0/30
PP	1600	1140	1250	1200	1500
MUD WT	9.6	9.0	9.9	9.3	10.2
VIS	37	38	37	31	32

BIT	6	7	8	9
SIZE	12 ½	12 ½	8 ½	8 ½
MAKE	Sec.	RTC	Sec.	RTC
TYPE	EBX5205	HP53A	EBX5305	EHP53FK
SERIAL #	10565860	PB4480	10709700	OR6170
JETS	3X24	3X24	3/12	3X12
OUT @	6494	7060	7065	7858
FOOTAGE	1725	586	477	308
HOURS	76	27	24 ½	14.5
WT	40	45	41	16
RPM	0/34	0/30	0/30	0/30
PP	1950	2050	1110	1145
MUD WT	10.0	9.8	8.4	8.5
VIS	32	36	35	35

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DAILY DRILLING SUMMARY

DATE	DEPTH	PROG.	HRS	MUD	VIS	WL	PH	ACTIVITY
6-30-05	271	134	2 ½	9.0	28	NC	9.5	DRILL OUT
7-1-05	710	439	23 ½	9.0	28	NC	10.0	DRILL
7-2-05	1122	412	23 ½	9.5	32	NC	9.5	DRILL
7-3-05	1422	300	23 ½	9.5	32	NC	9.5	DRILL
7-4-05	1680	258	18 ½	9.9	36	NC	10.0	Drill, Trip Rig Repair
7-5-05	1760	80	13 ½	9.7	36	NC	10.5	RIH, DRILL
7-6-05	1819	59	12 ½	9.8	37	NC	10.0	DRILL, LOST CIRR
7-7-05	1819	NIL	NIL					Ream, Lost Crr,Spot LCM
7-8-05	1819	NIL	NIL					Biuld Vol, Spot LCM
7-9-05	1819	NIL	NIL					Biuld Vol, Ream & Wash
7-10-05	1872	53	20 ½	9.0	47	NC	10.0	REAM, DRILL
7-11-05	1945	73	23 ½	8.7	36	NC	10.5	DRILL
7-12-05	2035	90	15	9.4	36	NC	11.0	TRIP BIT, DRILL
7-13-05	2235	200	23 ½	9.7	35	NC	9.0	DRILL
7-14-05	2435	200	23 ½	10.0	36	NC	10.5	DRILL
7-15-05	2448	13	1 ½	10.1	37	NC	10.5	DRILL, RUN 13 3/8"
7-16-05	2448	NIL	NIL					Nipple up
7-17-05	2671	223	3	8.7	27	NC	9.5	PRESS TEST, DRILL
7-18-05	3300	629	23 ½	9.4	29	NC	10.0	DRILL
7-19-05	3732	432	22 ½	9.8	29	NC	7.5	DRILL
7-20-05	3951	219	13	9.8	29	NC	8.5	Trip, Rig repair, Bit
7-21-05	4328	377	20 ½	9.8	29	NC	9.0	RIH, DRILL
7-22-05	4756	428	23 ½	10.0	31	NC	10.0	DRILL
7-23-05	5035	279	12 ½	9.9	33	NC	9.5	Drill,Trip Rig repair, Drill
7-24-05	5391	356	23 ½	10.0	34	NC	10.0	DRILL
7-25-05	5893	502	20 ½	10.0	34	NC	10.0	DRILL
7-26-05	6247	354	23 ½	10.0	33	NC	9.5	DRILL
7-27-05	6499	252	8 ½	10.0	32	NC	9.5	Drill, Trip Gamma
7-28-05	6499	NIL	NIL					RIH,Work tight hole,POOH
7-29-05	6540	41	1	9.9	34	NC	9.5	Ream, Drill, POOH, Motor
7-30-05	6981	341	18 ½	9.7	36	NC	10.0	RIH, DRILL
7-31-05	7065	84	6	9.8	36	NC	10.5	DRILL, RUN 9 5/8"
8-01-05	7065	NIL	NIL					Cement,Nipple up,Press test
8-02-05	7267	202	10 ½	8.1	31	7	8.5	RIH, DRILL
8-03-05	7542	275	20	8.4	32	6.5	9.0	Drill, Trip Motor/Bit
8-04-05	7802	60	12	8.5	30	5.5	9.0	RIH, DRILL, POOH
8-05-05	7850	48	2 ½	8.5	32	8.0	9.5	LOGGING, DRILL
8-06-05	7858	10	½	8.4	31	7.5	8.5	DRILL, POOH, RUN 7"

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DEVIATION SURVEYS

DEPTH	INCLINATION	DIRECTION
2380.00	39.00	323.90
2472.00	41.80	233.60
2566.00	42.90	233.10
2661.00	45.20	231.30
2755.00	44.60	230.60
2849.00	44.20	228.50
2849.00	44.20	228.50
2944.00	43.40	228.10
3039.00	42.30	230.40
3133.00	44.10	231.10
3227.00	43.30	230.40
3322.00	42.20	230.10
3416.00	40.80	229.90
3416.00	40.80	229.90
3511.00	40.20	232.60
3605.00	41.10	240.50
3605.00	41.10	240.50
3707.00	40.80	242.20
3801.00	39.80	244.10
3896.00	39.80	242.90
3990.00	39.40	240.50
3990.00	39.40	240.50
4085.00	37.50	235.90
4179.00	37.10	232.60

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DEPTH	INCLINATION	DIRECTION
4273.00	38.20	229.70
4367.00	38.30	229.60
4462.00	38.50	230.10
4556.00	38.50	231.10
4650.00	40.10	230.80
4744.00	40.30	230.40
4838.00	40.40	229.20
4933.00	40.60	229.70
5027.00	42.10	230.10
5122.00	41.20	229.70
5122.00	41.20	229.70
5216.00	39.80	227.80
5311.00	36.00	229.00
5405.00	30.90	233.30
5500.00	33.00	238.00
5594.00	34.00	239.60
5594.00	34.00	239.60
5689.00	36.10	238.50
5783.00	40.70	235.50
5878.00	40.80	233.40
5972.00	40.50	234.50
5972.00	40.50	234.50
6067.00	39.40	232.00
6160.00	36.10	228.10
6256.00	32.80	223.60
6350.00	31.10	223.80
6444.00	28.90	225.20
6444.00	28.90	225.20
6546.00	25.40	227.30
6640.00	23.60	229.70
6640.00	23.60	229.70
6735.00	22.70	232.00
6861.00	20.80	235.20
6962.00	19.90	234.70

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DEPTH	INCLINATION	DIRECTION
7007.00	18.90	233.10
7095.00	17.90	231.30
7190.00	18.20	232.40
7284.00	17.20	225.70
7379.00	16.40	216.70
7379.00	16.40	216.70
7473.00	16.90	215.30
7568.00	16.20	208.50

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SAMPLE DESCRIPTIONS

Wolverine Gas & Oil Corporation Wolverine Federal #19-1

2440-70	LIMESTONE 100% Light to medium gray, argillaceous, soft to firm, lithographic, mudstone.
2470-2500	LIMESTONE 100% Light to medium gray, argillaceous, soft to firm, lithographic, mudstone, 10% white, soft, chalky.
2500-30	LIMESTONE 100% Light to medium gray, argillaceous, soft to firm, lithographic, mudstone, 10% white, soft, chalky.
2530-60	LIMESTONE 100% Light to medium gray, argillaceous, earthy, mudstone, white, silty, sucrosic texture, crystalline, 70%.
2560-90	LIMESTONE 100% Light to medium gray, argillaceous, earthy, lithographic, mudstone, white, sucrosic, very fine to fine crystalline, 30% silty.
2590-2620	LIMESTONE 100% Light to medium gray, argillaceous, earthy, lithographic, mudstone.
2620-50	LIMESTONE 100% Light to medium gray, argillaceous, earthy, lithographic, mudstone, white, sucrosic, chalky, soft, 40%.
2650-80	LIMESTONE 100% Light to medium gray, argillaceous, firm to hard, crystalline in part, lithographic, mudstone, white, crystalline, calcite fracture in fill.
2680-2710	LIMESTONE 100% Light to medium gray, argillaceous, lithographic, mudstone, white, light gray, chalky, soft, silty.
2710-40	LIMESTONE 10% Light to medium gray, argillaceous, lithographic, mudstone, white, light gray, chalky, soft, silty. SANDSTONE 90% White, clear, quartzose, light red orange, very fine to medium grained, sub angular to rounded, fair to poor sorted, unconsolidated.
2740-70	SHALE 20% Red brown, silty, sandy, firm, blocky, slightly calcareous. SANDSTONE 80% White, clear, quartzose, light red orange, very fine to medium grained, sub angular to rounded, fair to poor sorted, unconsolidated.

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- 2770-2800** SANDSTONE 100% White, clear, quartzose, light red orange, very fine to medium grained, sub angular to rounded, fair to poor sorted, unconsolidated.
- 2800-30** SHALE 10% Red brown, silty, sandy, firm, slightly calcareous.
SILTSTONE 20% Red brown, arenaceous, argillaceous, slightly calcareous, firm to hard.
SANDSTONE 70% Unconsolidated.
- 2830-60** LIMESTONE 30% Light to medium gray, argillaceous, lithographic, mudstone.
SHALE 20% Red brown, silty, sandy, firm, slightly calcareous.
SILTSTONE 10% Red brown, arenaceous, argillaceous, slightly calcareous, firm to hard.
SANDSTONE 40% Unconsolidated.
- 2860-90** SHALE 10% Red brown, silty, sandy, firm, slightly calcareous.
LIMESTONE 50% Light to medium gray, argillaceous, lithographic, mudstone.
SANDSTONE 40% Unconsolidated.
- 2890-2920** SHALE 10% Red brown, silty, sandy, blocky, firm, slightly calcareous.
LIMESTONE 30% Light to medium gray, argillaceous, lithographic, mudstone.
SANDSTONE 60% White, clear, quartzose, light red, very fine to medium grained, sub angular to rounded, fine to poor sorted, unconsolidated.
- 2920-50** SHALE 30% Red brown, silty, sandy, blocky, firm, slightly calcareous.
SILTSTONE 40% Red brown, brown, arenaceous, firm, dolomitic.
LIMESTONE 30% Light to medium gray, argillaceous, lithographic, mudstone.
- 2950-80** SHALE 30% Red brown, silty, blocky, firm, dolomitic, salt dissolution casts.
SILTSTONE 10% Red brown, brown, arenaceous, firm, dolomitic.
SANDSTONE 40% White, clear, quartzose, fine to medium grained, sub angular to rounded, fine to poor sorted, unconsolidated.
LIMESTONE 20% Light to medium gray, argillaceous, earthy, lithographic, mudstone.
- 2980-3010** SHALE 30% Variable color, red brown, white, gray, brown, tan, blocky, firm, dolomitic, salt dissolution casts.
SILTSTONE 10% White, arenaceous, argillaceous, blocky, dolomitic, anhydrite.
SANDSTONE 30% White, clear, quartzose, fine to medium grained, sub angular to rounded, fine to poor sorted, unconsolidated.
LIMESTONE 30% Light to medium gray, argillaceous, lithographic, mudstone.

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- 3010-40** SHALE 30% Variable color, red brown, white, gray, brown, tan, blocky, firm, dolomitic, salt dissolution casts.
SILTSTONE 20% White, arenaceous, argillaceous, blocky, dolomitic, anhydrite.
SANDSTONE 50% White, clear, quartzose, fine to medium grained, sub angular to rounded, fine to poor sorted, unconsolidated.
- 3040-70** SHALE 20% Variable color, red brown, white, gray, brown, tan, blocky, firm, dolomitic, salt dissolution casts.
SILTSTONE 10% White, arenaceous, argillaceous, blocky, dolomitic, anhydrite.
SANDSTONE 70% White, clear, quartzose, fine to medium grained, sub angular to rounded, fine to poor sorted, unconsolidated.
- 3070-3100** SHALE 20% Variable color, red brown, white, gray, brown, tan, blocky, firm, dolomitic, salt dissolution casts.
SILTSTONE 10% White, arenaceous, argillaceous, blocky, dolomitic, anhydritic.
LIMESTONE 20% Light gray, crystalline, dense, lithographic, mudstone.
- 3100-30** SHALE 30% Red brown, blocky, firm, dolomitic.
LIMESTONE 70% Light to medium gray, argillaceous, earthy, lithographic, mudstone.
- 3130-60** SHALE 10% Red brown, blocky, firm, dolomitic, abundant salt dissolution casts.
LIMESTONE 90% Light to medium gray, argillaceous, earthy, lithographic, mudstone.
- 3160-90** LIMESTONE 100% Light to medium gray, argillaceous, earthy, lithographic, mudstone, abundant potash, salt dissolution casts.
- 3190-3220** SHALE 20% Red brown, silty, blocky, firm, dolomitic abundant salt casts.
LIMESTONE 80% Light to medium gray, argillaceous, earthy, lithographic, mudstone, abundant, potash, salt dissolution casts.
- 3220-50** SANDSTONE 100% White, clear, quartzose, light red orange, fine to medium grained, sub angular to rounded, fine to poor sorted, unconsolidated.
- 3250-80** SHALE 100% Red brown, silty, soft to firm, dolomitic, white, waxy, smooth.
- 3280-3310** SHALE 80% Red brown, silty, soft to firm, dolomitic, white, waxy, smooth.
SANDSTONE 20% White, clear, quartzose, light red orange, fine to medium grained, sub angular to rounded, fine to poor sorted, unconsolidated.
- 3310-40** SANDSTONE 100% White, quartzose, light red orange, fine to medium grained, sub angular to rounded, fine to poor sorted, unconsolidated.

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- 3340-70** SHALE 20% Red brown, silty, soft to firm, dolomitic, white, waxy, smooth.
SANDSTONE 80% White, clear, quartzose, light red orange, fine to medium grained, sub angular to rounded, fair to poor sorted, unconsolidated.
- 3370-3400** SHALE 30% Red brown, silty, soft to firm, dolomitic, white, waxy, smooth.
SANDSTONE 70% White, clear, quartzose, light red orange, fine to medium grained, sub angular to rounded, fair to poor sorted, unconsolidated.
- 3400-30** SHALE 10% Red brown, silty, soft to firm, dolomitic, white, waxy, smooth.
LIMESTONE 90% Light to medium gray, argillaceous, earthy, soft to firm, lithographic, mudstone.
- 3430-60** SHALE 10% Red brown, silty, soft to firm, dolomitic, white, waxy, smooth.
LIMESTONE 90% Light to medium gray, argillaceous, earthy, soft to firm, lithographic, mudstone.
- 3460-90** SHALE 20% Red brown, blocky, dolomitic, firm.
LIMESTONE 50% Light to medium gray, argillaceous, earthy, soft to firm, lithographic, mudstone.
ANHYDRITE 30% White, crystalline, chalky, soft to firm.
- 3490-20** SHALE 10% Red brown, blocky, dolomitic, firm.
LIMESTONE 70% Light to medium gray, argillaceous, earthy, soft to firm, lithographic, mudstone.
ANHYDRITE 20% White, crystalline, chalky, soft to firm.
- 3520-50** SHALE 20% Red brown, dolomitic, silty, blocky, firm.
LIMESTONE 40% Light to medium gray, argillaceous, chalky, lithographic, mudstone.
ANHYDRITE 40% White, clear, translucent, crystalline, sucrosic texture, chalky in part, firm.
- 3550-80** SHALE 30% Red brown, dolomitic, silty, blocky, firm.
LIMESTONE 40% Light to medium gray, argillaceous, chalky, lithographic, mudstone.
ANHYDRITE 30% White, clear, translucent, crystalline, sucrosic texture, chalky in part, firm.
- 3580-3610** SHALE 30% Red brown, dolomitic, silty, blocky, firm, abundant salt casts.
LIMESTONE 30% Light to medium gray, argillaceous, chalky, lithographic, mudstone.
ANHYDRITE 40% White, clear, translucent, crystalline, sucrosic texture, chalky in part, firm.

- 3610-40 SHALE 10% Red brown, dolomitic, silty, blocky, firm, abundant salt casts.
 LIMESTONE 70% Light to medium gray, argillaceous, chalky, lithographic, mudstone.
 ANHYDRITE 20% White, clear, translucent, crystalline, sucrosic texture, chalky in part, firm.
- 3640-70 SHALE 10% Red brown, dolomitic, silty, blocky, firm, abundant salt casts.
 LIMESTONE 90% Light to medium gray, argillaceous, chalky, lithographic, mudstone.
- 3670-3700 LIMESTONE 100% Light to medium gray, argillaceous, earthy, lithographic, mudstone, white, soft, chalky, abundant white anhydrite fracture fill.
- 3700-30 LIMESTONE 100% Light to medium gray, argillaceous, earthy, lithographic, mudstone, white, soft, chalky, abundant white anhydrite fracture fill.
- 3730-60 SHALE 40% Red brown, soft to firm, earthy, floating quartz grains, silty.
 ANHYDRITE 20% White, sucrosic, crystalline, chalky.
 LIMESTONE 40% Light to medium gray, argillaceous, earthy, lithographic, mudstone, white, soft, chalky, abundant white anhydrite fracture fill.
- 3760-90 SHALE 10% Red brown, silty, blocky, firm, dolomitic, abundant white chalky anhydrite.
 LIMESTONE 10% Light to medium gray, argillaceous, lithographic, mudstone.
 SANDSTONE 80% White, clear, quartzose, light red, fine to medium grained, sub angular to rounded, fair to poor sorted, unconsolidated.
- 3790-3820 SHALE 10% Red brown, silty, blocky, firm, dolomitic, abundant white chalky anhydrite.
 SILTSTONE 10% Red brown, arenaceous, argillaceous, firm to hard, dolomitic.
 SANDSTONE 80% White, clear, quartzose, light red, fine to medium grained, sub angular to rounded, fair to poor sorted, unconsolidated.
- 3820-50 SHALE 20% Red brown, silty, blocky, firm, dolomitic, abundant white chalky anhydrite.
 SILTSTONE 20% Red brown, arenaceous, argillaceous, firm to hard, dolomitic.
 LIMESTONE 10% Light to medium gray, silty in part, argillaceous, mudstone.
 SANDSTONE 50% White, clear, quartzose, light red, fine to medium grained, sub angular to rounded, fair to poor sorted, unconsolidated.
- 3850-80 SILTSTONE 20% Red brown, arenaceous, argillaceous, firm to hard, dolomitic.
 LIMESTONE 90% Light to medium gray, silty in part, argillaceous, lithographic, mudstone, white, soft, chalky in part.
- 3880-3910 LIMESTONE 100% Light to medium gray, silty in part, argillaceous, lithographic, mudstone, white, soft, chalky in part.

1000-1000-1000

- 3910-40 LIMESTONE 100% Light to medium gray, silty in part, argillaceous, lithographic, mudstone, white, soft, chalky in part.
- 3940-70 SHALE 20% Red brown, silty, blocky, firm, dolomitic, abundant white chalky anhydrite, red brown, light gray white, blocky, firm, dolomitic.
LIMESTONE 10% Light to medium gray, silty in part, argillaceous, lithographic, mudstone, white, soft, chalky in part.
SANDSTONE 70% White, clear, quartzose, fine to medium grained, sub angular to rounded, fair to poor sorted, unconsolidated.
- 3970-4000 SHALE 70% Red brown, silty, blocky, firm, dolomitic, abundant white chalky anhydrite, red brown, light gray white, blocky, firm, dolomitic.
LIMESTONE 20% Light to medium gray, silty in part, argillaceous, lithographic, mudstone, white, soft, chalky in part.
SANDSTONE 10% White, clear, quartzose, fine to medium grained, sub angular to rounded, fair to poor sorted, unconsolidated.
- 4000-30 SHALE 70% Red brown, tan, white, brown, blocky, soft to firm, chalky, silty, dolomitic.
LIMESTONE 30% Light to medium gray, argillaceous, lithographic, mudstone.
- 4030-60 SHALE 60% Red brown, tan, white, brown, blocky, soft to firm, chalky, silty, dolomitic.
LIMESTONE 40% Light to medium gray, argillaceous, lithographic, mudstone.
- 4060-90 SHALE 20% Red brown, white, gray, soft to firm, silty, blocky, dolomitic.
LIMESTONE 60% Light gray, white, soft to firm, chalky, lithographic, mudstone.
ANHYDRITE 20% White, soft, chalky.
- 4090-4120 SHALE 20% Red brown, brown, silty, sandy, blocky, firm, dolomitic.
LIMESTONE 80% Light gray, white, chalky, soft to firm, lithographic, mudstone.
- 4120-50 SHALE 10% Red brown, brown, silty, sandy, blocky, firm, dolomitic.
LIMESTONE 90% Light gray, white, chalky, soft to firm, lithographic, mudstone.
- 4150-80 SHALE 10% Red brown, brown, silty, sandy, blocky, firm, dolomitic.
LIMESTONE 90% Light to medium gray, crystalline, argillaceous, lithographic, mudstone.
- 4180-4210 LIMESTONE 100% Light to medium gray, crystalline, argillaceous, lithographic, mudstone, abundant anhydrite fracture in fill.
- 4210-40 LIMESTONE 100% Light to medium gray, crystalline, argillaceous, lithographic, mudstone, abundant anhydrite fracture in fill.

- 4240-70** Limestone 100% Light to medium gray, crystalline, firm to hard, lithographic, mudstone, white, chalky, soft, abundant anhydrite fracture fill.
- 4270-4300** Limestone 100% Light to medium gray, crystalline, firm to hard, lithographic, mudstone, white, soft, chalky, becoming filled with fine to medium grained rounded quartz grains.
- 4300-30** SHALE 20% Red brown, brown, silty, sandy, soft to firm.
Limestone 50% Light to medium gray, gray brown, argillaceous, chalky, crystalline, lithographic, mudstone.
ANHYDRITE 30% White, silty, sandy, chalky, soft.
- 4330-60** SHALE 10% Red brown, brown, silty, sandy, soft to firm.
Limestone 70% Light to medium gray, gray brown, argillaceous, chalky, crystalline, lithographic, mudstone.
ANHYDRITE 20% White, silty, sandy, chalky, soft.
- 4360-90** SHALE 10% Red brown, brown, silty, sandy, soft to firm.
Limestone 60% Light to medium gray, gray brown, argillaceous, chalky, crystalline, lithographic, mudstone.
ANHYDRITE 30% White, silty, sandy, chalky, soft.
- 4390-4420** SHALE 10% Red brown, brown, silty, sandy, soft to firm.
Limestone 70% Light to medium gray, gray brown, argillaceous, chalky, crystalline, lithographic, mudstone.
ANHYDRITE 20% White, silty, sandy, chalky, soft.
- 4420-50** Limestone 100% Light to medium gray, silty, argillaceous, lithographic, mudstone.
- 4450-80** Limestone 100% Light to medium gray, silty, argillaceous, lithographic, mudstone.
- 4480-4510** Limestone 100% Light to medium gray, firm, chalky in part, silty, argillaceous, lithographic, mudstone.
- 4510-40** SHALE 10% Red brown, silty, blocky, dolomitic.
Limestone 90% Light to medium gray, firm, chalky in part, silty, argillaceous, lithographic, mudstone.

- 4540-70** SHALE 10% Red brown, silty, blocky, dolomitic.
 LIMESTONE 20% Light to medium gray, firm, chalky in part, silty, argillaceous, lithographic, mudstone.
 SANDSTONE 70% White, clear, quartzose, fine to medium grained, sub angular to rounded, fair to poor sorted, unconsolidated.
- 4570-4600** SHALE 30% Light brown, red brown, tan, silty, sandy, dolomitic, abundant potash, salt casts.
 LIMESTONE 30% Light to medium gray, argillaceous, lithographic, mudstone.
 SANDSTONE 40% White, clear, quartzose, fine to coarse granulated, sub angular to rounded, fair to poor sorted, unconsolidated.
- 4600-30** SHALE 30% Light brown, red brown, tan, silty, sandy, dolomitic, abundant potash, salt casts.
 LIMESTONE 40% Light to medium gray, argillaceous, lithographic, mudstone.
 SANDSTONE 20% White, clear, quartzose, fine to coarse granulated, sub angular to rounded, fair to poor sorted, unconsolidated.
 ANHYDRITE 10% White, soft, chalky.
- 4630-60** SHALE 10% Light brown, red brown, tan, silty, sandy, dolomitic.
 LIMESTONE 20% Light to medium gray, argillaceous, lithographic, mudstone.
 SANDSTONE 70% White, clear, quartzose, fine to coarse granulated, sub angular to rounded, fair to poor sorted, unconsolidated.
- 4660-90** SHALE 20% Light brown, red brown, tan, silty, sandy, dolomitic.
 LIMESTONE 40% Light to medium gray, argillaceous, lithographic, mudstone.
 SANDSTONE 40% White, clear, quartzose, fine to coarse granulated, sub angular to rounded, fair to poor sorted, unconsolidated.
- 4690-4720** SHALE 10% Red brown, silty, blocky, dolomitic, red orange, potash, brown, arenaceous, dolomitic.
 LIMESTONE 90% Light to medium gray, argillaceous, lithographic, mudstone.
- 4720-50** SANDSTONE 40% White, clear, quartzose, very fine to medium grained, sub angular to rounded, fair to poor sorted, unconsolidated.
 LIMESTONE 50% Light to medium gray, argillaceous, lithographic, mudstone.
 ANHYDRITE 10% White, clear, chalky.

- 4750-80** SHALE 40% Red brown, tan, white, silty, blocky, dolomitic, abundant potash, salt casts.
LIMESTONE 30% Light to medium gray, crystalline, dense, argillaceous, lithographic, mudstone.
SANDSTONE 30% White, clear, quartzose, very fine to medium grained, sub angular to rounded, fair to poor sorted, unconsolidated.
- 4780-4810** SHALE 40% Red brown, silty, blocky, dolomitic, earthy.
LIMESTONE 60% Light to medium gray, soft, chalky, argillaceous, lithographic, mudstone.
- 4810-40** SHALE 30% Red brown, silty, blocky, dolomitic, earthy, abundant potash, salt casts.
LIMESTONE 70% Light to medium gray, soft, chalky, argillaceous, lithographic, mudstone.
- 4840-4870** SHALE 30% Red brown, brown, silty, sandy, blocky, firm, dolomitic.
LIMESTONE 50% Light to medium gray, argillaceous, lithographic, mudstone.
ANHYDRITE 20% White, chalky, soft, sandy, silty.
- 4870-4900** SHALE 40% Red brown, brown, silty, sandy, blocky, firm, dolomitic.
LIMESTONE 50% Light to medium gray, argillaceous, lithographic, mudstone.
ANHYDRITE 10% White, chalky, soft, sandy, silty.
- 4900-30** SHALE 10% Red brown, brown, silty, sandy, blocky, firm, dolomitic.
LIMESTONE 80% Light to medium gray, argillaceous, lithographic, mudstone.
ANHYDRITE 10% White, chalky, soft, sandy, silty.
- 4930-60** SHALE 10% Red brown, brown, silty, sandy, blocky, firm, dolomitic.
LIMESTONE 90% Light to medium gray, argillaceous, lithographic, mudstone.
- 4960-90** SHALE 10% Red brown, brown, silty, sandy, blocky, firm, dolomitic.
LIMESTONE 90% Light to medium gray, argillaceous, lithographic, mudstone.
- 4990-5020** LIMESTONE 100% Light to medium gray, argillaceous, lithographic, mudstone, white, chalky, soft.
- 5020-50** LIMESTONE 100% Light to medium gray, argillaceous, lithographic, mudstone, white, chalky, soft.
- 5050-80** LIMESTONE 100% Light to medium gray, argillaceous, lithographic, mudstone, white, chalky, soft.

- 5080-5110 Limestone 100% Light to medium gray, argillaceous, lithographic, mudstone, white, chalky, soft.
- 5110-40 Limestone 100% Light to medium gray, argillaceous, lithographic, mudstone, white, chalky, soft.
- 5140-70 Limestone 90% Light to medium gray, argillaceous, lithographic, mudstone, white, soft, chalky.
Anhydrite 10% White, soft, chky.
- 5170-5200 Limestone 80% Light to medium gray, argillaceous, lithographic, mudstone, white, soft, chalky.
Anhydrite 20% White, soft, chalky, silty.
- 5200-30 Limestone 100% Light to medium gray, argillaceous, lithographic, mudstone, white, soft, chalky.
- 5230-60 Limestone 100% Light to medium gray, argillaceous, lithographic, mudstone, white, soft, chalky.
- 5260-90 Limestone 100% Light to medium gray, white, argillaceous, chalky, lithographic, mudstone.
- 5290-5320 Shale 10% Red brown, silty, blocky, firm, dolomitic.
Limestone 70% Light to medium gray, argillaceous, lithographic, mudstone, white, soft, chalky.
Anhydrite 20% White, soft, chalky.
- 5320-50 Shale 10% Red brown, silty, blocky, firm, dolomitic.
Limestone 90% Light to medium gray, argillaceous, lithographic, mudstone, white, 10% soft, chalky.
- 5350-80 Shale 10% Red brown, silty, blocky, firm, dolomitic, abundant salt casts.
Limestone 90% Light to medium gray, argillaceous, lithographic, mudstone, white, 10% soft, chalky.
- 5380-5410 Shale 10% Red brown, silty, blocky, dolomitic.
Limestone 90% Light to medium gray, argillaceous, lithographic, mudstone, white, soft, chalky, 30%.

- 5410-40** SHALE 10% Red brown, silty, blocky, dolomitic.
LIMESTONE 90% Light to medium gray, argillaceous, lithographic, mudstone, white, soft, chalky, 30%.
- 5440-70** SHALE 10% Red brown, silty, sandy, dolomitic, blocky, firm, abundant salt casts.
LIMESTONE 90% Light to medium gray, argillaceous, lithographic, mudstone, white, soft, chalky, silty 20%.
- 5470-5500** SHALE 10% Red brown, silty, sandy, dolomitic, blocky, firm, abundant salt casts.
LIMESTONE 90% Light to medium gray, argillaceous, lithographic, mudstone, white, soft, chalky, silty 20%.
- 5500-30** SHALE 10% Red brown, silty, sandy, dolomitic, blocky, firm, abundant salt casts.
LIMESTONE 90% Light to medium gray brown, crystalline, dense, argillaceous, lithographic, mudstone.
- 5530-60** SHALE 10% Red brown, silty, sandy, dolomitic, blocky, firm, abundant salt casts.
LIMESTONE 90% Light to medium gray brown, crystalline, dense, argillaceous, lithographic, mudstone.
- 5560-90** SHALE 10% Red brown, silty, sandy, dolomitic, blocky, firm, abundant salt casts.
LIMESTONE 60% Light to medium gray brown, crystalline, dense, argillaceous, lithographic, mudstone.
ANHYDRITE 10% White, soft, chalky.
- 5620-50** SHALE 20% Red brown, silty, sandy, dolomitic, blocky, firm, abundant salt casts.
LIMESTONE 70% Light to medium gray brown, crystalline, dense, argillaceous, lithographic, mudstone.
ANHYDRITE 10% White, soft, chalky.
- 5650-80** SHALE 10% Red brown, soft to firm, silty, earthy, dolomitic, salt casts.
LIMESTONE 70% Light to medium gray, argillaceous, lithographic, mudstone, white, soft, chalky.
ANHYDRITE 20% White, chalky, soft, silty.
- 5680-5710** SHALE 10% Red brown, soft to firm, silty, earthy, dolomitic, salt casts.
LIMESTONE 90% Light to medium gray, argillaceous, lithographic, mudstone, white, soft, chalky, abundant white, chalky, anhydrite fracture in fill.
- 5710-40** LIMESTONE 100% Light to medium gray, argillaceous, crystalline, lithographic, mudstone.

- 5740-70** Limestone 100% Light to medium gray, argillaceous, crystalline, lithographic, mudstone.
- 5770-5800** SHALE 10% Red brown, silty, blocky, dolomitic, abundant salt casts.
Limestone 80% Light to medium gray, argillaceous, crystalline, lithographic, mudstone, micropyrictic in part.
ANHYDRITE 10% White, chalky, crystalline, sucrosic.
- 5800-30** SHALE 20% Red brown, gray green, blocky, silty, smooth, waxy, firm, dolomitic.
Limestone 60% Light to medium gray, argillaceous, lithographic, mudstone.
ANHYDRITE 20% White, chalky, silty, sandy, soft to firm.
- 5830-60** SHALE 30% Variable color, red brown, brown, tan, gray green, blocky, firm, dolomitic, smooth.
Limestone 60% Light to medium gray, argillaceous, lithographic, mudstone.
ANHYDRITE 10% White, soft, chalky, silty.
- 5860-90** SHALE 10% Variable color, red brown, brown, tan, gray green, blocky, firm, dolomitic, smooth.
Limestone 90% Light to medium gray, argillaceous, lithographic, mudstone.
- 5890-5920** SHALE 10% Red brown, soft to firm, dolomitic, blocky, abundant salt casts.
Limestone 80% Light to medium gray, argillaceous, lithographic, mudstone.
ANHYDRITE 10% White, soft, chalky.
- 5920-50** SHALE 10% Red brown, blocky, dolomitic, firm.
Limestone 90% Light to medium gray, argillaceous, lithographic, mudstone.
- 5950-80** Limestone 100% Light to medium gray, argillaceous, lithographic, mudstone, abundant anhydrite fracture in fill.
- 5980-6010** SHALE 10% Red brown, gray green, blocky, firm, smooth.
Limestone 90% Light to medium gray, argillaceous, lithographic, mudstone, white, soft, chalky.
- 6010-40** SHALE 10% Red brown, gray green, blocky, firm, smooth.
Limestone 90% Light to medium gray, argillaceous, lithographic, mudstone, white, soft, chalky.
- 6040-70** Limestone 100% Light to medium gray, argillaceous, lithographic, mudstone, white, soft, chalky in part, abundant white crystalline anhydrite fracture in fill.

- 6070-6100 LESTONE 100% Light to medium gray, argillaceous, lithographic, mudstone, white, soft, chalky in part abundant white, crystalline, anhydrite fracture in fill.**
- 6100-30 LESTONE 100% Light to medium gray, argillaceous, lithographic, mudstone, 10% white, soft, chalky in part abundant white, crystalline, anhydrite fracture in fill.**
- 6130-60 LESTONE 100% Light to medium gray brown, crystalline, dense, argillaceous, lithographic, mudstone, 10% white, soft, chalky.**
- 6160-90 LESTONE 100% Light to medium gray brown, crystalline, dense, argillaceous, lithographic, mudstone, 10% white, soft, chalky.**
- 6190-6220 LESTONE 100% Light to medium gray brown, crystalline, dense, argillaceous, lithographic, mudstone, 10% white, soft, chalky.**
- 6220-50 LESTONE 100% Light to medium gray brown, crystalline, dense, argillaceous, lithographic, mudstone, 10% white, soft, chalky.**
- 6250-80 LESTONE 100% Light to medium gray brown, crystalline, dense, argillaceous, lithographic, mudstone, 10% white, soft, chalky.**
- 6280-6310 LESTONE 100% Light to medium gray brown, crystalline, dense, firm to hard, argillaceous, mudstone, abundant red brown, silty, shale, abundant anhydrite, abundant salt casts.**
- 6310-40 SHALE 10% Red brown, silty, sandy, dolomitic, blocky, firm to hard.
LESTONE 90% Light to medium gray brown, crystalline, dense, firm to hard, argillaceous, mudstone, abundant red brown, silty, shale, abundant anhydrite, abundant salt casts.**
- 6340-70 SHALE 10% Red brown, silty, sandy, dolomitic, blocky, firm to hard.
LESTONE 90% Light to medium gray brown, crystalline, dense, firm to hard, argillaceous, mudstone, abundant red brown, silty, shale, abundant anhydrite, abundant salt casts.**
- 6370-6400 SHALE 10% Red brown, silty, sandy, dolomitic, blocky, firm to hard.
LESTONE 90% Light to medium gray brown, crystalline, dense, firm to hard, argillaceous, mudstone, abundant red brown, silty, shale, abundant anhydrite, abundant salt casts.**

- 6400-30** SHALE 20% Red brown, silty, sandy, dolomitic, blocky, firm to hard.
LIMESTONE 80% Light to medium gray brown, crystalline, dense, firm to hard, argillaceous, mudstone, abundant red brown, silty, shale, abundant anhydrite, abundant salt casts.
- 6430-60** SHALE 30% Red brown, silty, sandy, dolomitic, blocky, firm to hard.
LIMESTONE 70% Light to medium gray brown, crystalline, dense, firm to hard, argillaceous, mudstone, abundant red brown, silty, shale, abundant anhydrite, abundant salt casts.
- 6460-90** SHALE 20% Red brown, silty, sandy, dolomitic, blocky, firm to hard.
LIMESTONE 80% Light to medium gray brown, crystalline, dense, firm to hard, argillaceous, mudstone, abundant red brown, silty, shale, abundant anhydrite, abundant salt casts.
- 6490-6520** SHALE 40% Variable color, red brown, gray green, tan, white, blocky, waxy, firm, dolomitic.
LIMESTONE 60% Light to medium gray, crystalline, dense, argillaceous, lithographic, mudstone.
- 6520-50** SHALE 50% Variable color, red brown, gray green, tan, white, blocky, waxy, firm, dolomitic.
LIMESTONE 50% Light to medium gray, crystalline, dense, argillaceous, lithographic, mudstone.
- 6550-80** SHALE 60% Variable color, red brown, gray green, tan, white, blocky, waxy, firm, dolomitic.
LIMESTONE 40% Light to medium gray, crystalline, dense, argillaceous, lithographic, mudstone.
- 6580-6610** SHALE 50% Red brown, gray, gray green, tan, white, blocky, silty, firm, dolomitic.
LIMESTONE 50% Light to medium gray, crystalline, dense, argillaceous, lithographic, mudstone.
- 6610-40** SHALE 30% Red brown, gray, gray green, tan, white, blocky, silty, firm, dolomitic.
LIMESTONE 30% Light to medium gray, crystalline, dense, argillaceous, lithographic, mudstone.
SANDSTONE 40% White, clear, quartzose, fine to medium grained, sub angular to rounded, fair to poor sorted, unconsolidated.

- 6040-70 SHALE 30% Red brown, gray, gray green, tan, white, blocky, silty, firm, dolomitic.
 LIMESTONE 30% Light to medium gray, crystalline, dense, argillaceous, lithographic, mudstone.
 SANDSTONE 40% White, clear, quartzose, fine to medium grained, sub angular to rounded, fair to poor sorted, unconsolidated.
- 6670-6700 SHALE 40% Red brown, gray, gray green, tan, white, blocky, silty, firm, dolomitic.
 LIMESTONE 60% Light to medium gray, crystalline, dense, argillaceous, lithographic, mudstone.
- 6700-30 SHALE 30% Red brown, gray, gray green, tan, white, blocky, silty, firm, dolomitic.
 LIMESTONE 50% Light to medium gray, crystalline, dense, argillaceous, lithographic, mudstone.
 SANDSTONE 20% White, clear, quartzose, fine to medium grained, sub angular to rounded, fair to poor sorted, unconsolidated.
- 6730-60 SHALE 40% Red brown, gray, gray green, tan, white, blocky, silty, firm, dolomitic.
 LIMESTONE 50% Light to medium gray, crystalline, dense, argillaceous, lithographic, mudstone.
 SANDSTONE 10% White, clear, quartzose, fine to medium grained, sub angular to rounded, fair to poor sorted, unconsolidated.
- 6760-90 SHALE 20% Red brown, gray, gray green, tan, white, blocky, silty, firm, dolomitic.
 LIMESTONE 40% Light to medium gray, crystalline, dense, argillaceous, lithographic, mudstone.
 SANDSTONE 40% White, clear, quartzose, fine to medium grained, sub angular to rounded, fair to poor sorted, unconsolidated.
- 6790-6820 SHALE 20% Red brown, gray, gray green, tan, white, blocky, silty, firm, dolomitic.
 LIMESTONE 20% Light to medium gray, crystalline, dense, argillaceous, lithographic, mudstone.
 SANDSTONE 60% White, clear, quartzose, fine to medium grained, sub angular to rounded, fair to poor sorted, unconsolidated.
- 6820-50 SHALE 50% Red brown, silty, blocky, dolomitic, firm.
 SILTSTONE 30% Red brown, argillaceous, arenaceous, dolomitic, firm.
 LIMESTONE 20% Light to medium gray, argillaceous, lithographic, mudstone.
- 6850-80 SHALE 10% Red brown, silty, blocky, dolomitic, firm.
 LIMESTONE 90% Light to medium gray brown, tan, light brown, dense, microcrystalline, red, tight, mudstone.

- 6880-6910 Limestone 100% Light to medium gray brown, tan, light brown, mottled, crystalline, dense, hard, mudstone, mottled in part.
- 6910-40 Limestone 100% Light gray brown, tan, microcrystalline, dense, hard, tight.
- 6940-70 Limestone 100% Light gray brown, tan, microcrystalline, dense, hard, tight, becoming wackestone to grainstone, pellets, abundant oolites, mottled, mudstone matrix, hard, tight, no show.
- 6970-7000 Limestone 100% Light gray brown, tan, micro crystalline, dense, hard, tight, becoming wackestone to grainstone, pellets, abundant oolites, mottled, mudstone matrix, hard, tight, light gray to white, mottled, oolitic.
- 7000-30 Limestone 100% Medium to dark gray brown, crystalline, dense, argillaceous, lithographic, mudstone, light gray, white, mottled, chalky, mudstone.
- 7030-60 Limestone 100% Medium to dark gray brown, crystalline, dense, argillaceous, lithographic, mudstone, light gray, white, mottled, chalky, mudstone.
- 7060-90 Limestone 100% Medium to dark gray brown, crystalline, dense, argillaceous, lithographic, mudstone, light gray, white, mottled, chalky, mudstone.
- 7090-7120 Limestone 100% Light gray brown, tan, mottled, pellets, oolitic, packstone to grainstone, mudstone matrix, very fine to fine crystalline, sucrosic texture in part, tight, no show.
- 7120-50 Limestone 100% Light to medium gray brown, crystalline, dense, mudstone.
- 7150-80 Limestone 100% Light to medium gray brown, crystalline, dense, mudstone, abundant white, crystalline, calcite, fracture fill.
- 7180-7210 Limestone 100% Light to medium gray brown, tan, light gray to white, mottled, very fine to fine crystalline, sucrosic texture, abundant white, clear, crystalline, calcite, fracture in fill, yellow to white fluorescence, no show.

- 7210-40** **LIMESTONE 30%** Light to medium gray brown, tan, light gray to white, mottled, very fine to fine crystalline, sucrosic texture, abundant white, clear, crystalline, calcite, fracture in fill, yellow to white fluorescence, no show.
SANDSTONE 70% White, clear, quartzose, light red orange, pink, very fine to coarse grained, sub angular to rounded, fair to poor sorted, clay matrix, siliceous cement, friable, 6-8% intrgranular porosity, 20% unconsolidated, yellow to white oil fluorescence, brown oil stain in pores, yellow to white milky cut fluorescence, yellow gold residual ring.
- 7240-70** **SANDSTONE 100%** White, clear, quartzose, light red orange, pink, very fine to medium grained, sub angular to rounded, fair to poor sorted, clay matrix, siliceous cement, friable, 95% unconsolidated, strong hydrocarbon odor, rainbow on wash water, yellow to white oil fluorescence, brown oil stain in pores, yellow to white milky cut fluorescence, yellow gold residual ring, 10-14% intrgranular porosity.
- 7270-7300** **SANDSTONE 100%** White, clear, quartzose, light red orange, pink, very fine to coarse grained, sub angular to rounded, fair to poor sorted, clay matrix, siliceous cement, friable, 90% unconsolidated, strong hydrocarbon odor, rainbow on wash water, yellow to white oil fluorescence, brown oil stain in pores, yellow to white milky cut fluorescence, yellow gold residual ring, 10-14% intrgranular porosity.
- 7300-30** **SANDSTONE 100%** White, clear, quartzose, light red orange, pink, very fine to coarse grained, sub angular to rounded, fair to poor sorted, clay matrix, siliceous cement, friable, 85% unconsolidated, strong hydrocarbon odor, rainbow on wash water, yellow to white oil fluorescence, brown oil stain in pores, yellow to white milky cut fluorescence, yellow gold residual ring, 10-14% intrgranular porosity.
- 7330-60** **SANDSTONE 100%** White, clear, quartzose, light red orange, pink, very fine to coarse grained, sub angular to rounded, fair to poor sorted, clay matrix, siliceous cement, friable, 98% unconsolidated, strong hydro carbon odor, rainbow on wash water, yellow to white oil fluorescence, brown oil stain in pores, yellow to white milky cut fluorescence, yellow gold residual ring, 10-14% intrgranular porosity.
- 7360-90** **SANDSTONE 100%** White, clear, quartzose, light red orange, pink, very fine to coarse grained, sub angular to rounded, fair to poor sorted, clay matrix, siliceous cement, friable, 95% unconsolidated, strong hydrocarbon odor, rainbow on wash water, yellow to white oil fluorescence, brown oil stain in pores, yellow to white milky cut fluorescence, yellow gold residual ring, 10-14% intrgranular porosity.

- 7390-7420** SANDSTONE 100% White, clear, quartzose, light red orange, pink, very fine to medium grained, sub angular to rounded, fair to poor sorted, clay matrix, siliceous cement, friable, 98% unconsolidated, strong hydrocarbon odor, rainbow on wash water, yellow to white oil fluorescence, brown oil stain in pores, yellow to white milky cut fluorescence, yellow gold residual ring, 10-14% intrgranular porosity.
- 7420-50** SANDSTONE 100% White, clear, quartzose, light red orange, pink, very fine to medium grained, sub angular to rounded, fair to poor sorted, clay matrix, siliceous cement, friable, 70% unconsolidated, abundant white, silty anhydrite, strong hydrocarbon odor, rainbow on wash water, yellow to white oil fluorescence, brown oil stain in pores, yellow to white milky cement fluorescence, yellow gold residual ring, 10-14% intrgranular porosity.
- 7450-80** SANDSTONE 100% White, clear, quartzose, light red orange, pink, very fine to medium grained, sub angular to rounded, fair to poor sorted, clay matrix, siliceous cement, friable, 60% unconsolidated, abundant white, silty anhydrite, strong hydro carbon odor, rainbow on wash water, yellow to white oil fluorescence, brown oil stain in pores, yellow to white milky cement fluorescence, yellow gold residual ring, 10-14% intrgranular porosity.
- 7480-7510** SHALE 20% Red brown, blocky, red, silty, firm to hard, dolomitic.
SILTSTONE 50% Red brown, red, arenaceous, argillaceous, blocky, firm to hard.
SANDSTONE 20% White, clear, quartzose, fine to medium grained, sub angular to rounded fair to poor sorted, unconsolidated.
ANHYDRITE 10% White, chalky, soft to firm.
- 7510-40** SHALE 10% Red brown, brick red, silty, firm to hard, dolmitic.
SILTSTONE 60% Red brown, brick red, arenaceous, argillaceous, blocky, firm to hard.
SANDSTONE 20% White, clear, quartzose, fine to medium grained, sub angular to rounded fair to poor sorted, unconsolidated.
ANHYDRITE 10% White, chalky, soft to firm.
- 7540-70** SANDSTONE 100% White, clear, quartzose, fine to coarse grained, sub angular to rounded, fair to poor sorted, clay matrix, siliceous cement, 98% unconsolidated, brown oil stain, strong hydrocarbon odor, 12-16% intrgranular porosity, yellow to white oil fluorescence, yellow to white milky cut fluorescence, yellow to gold residual ring cut.
- 7570-7600** SANDSTONE 100% White, clear, quartzose, very fine to coarse grained, sub angular to rounded, fair to poor sorted, clay matrix, siliceous cement, 99% unconsolidated, brown oil stain, strong hydro carbon odor, 12-16% intrgranular porosity, yellow to white oil fluorescence, yellow to white milky cut fluorescence, yellow to gold residual ring cut.

- 7600-30** SANDSTONE 100% White, clear, quartzose, fine to medium grained, sub angular to rounded, fair to poor sorted, clay matrix, siliceous cement, 99% unconsolidated, brown oil stain, strong hydrocarbon odor, 12-16% intrgranular porosity, yellow to white oil fluorescence, yellow to white milky cut fluorescence, yellow to gold residual ring cut.
- 7630-60** SANDSTONE 100% White, clear, quartzose, fine to coarsely grained, sub angular to rounded, fair to poor sorted, clay matrix, siliceous cement, 95% unconsolidated, mixed zone, weaker show, 30% cutting with show, brown oil stain, strong hydrocarbon odor, 12-16% intrgranular porosity, yellow to white oil fluorescence, yellow to white milky cut fluorescence, yellow to gold residual ring cut.
- 7660-90** SANDSTONE 100% White, clear, quartzose, very fine to medium grained, sub angular rounded, fair to poor sorted, clay matrix, siliceous cement, 85% unconsolidated oil water contact, weak to no show.
- 7690-7720** SANDSTONE 100% White, clear, quartzose, very fine to medium grained, sub angular to rounded, fair to poor sorted, clay matrix, siliceous cement, 95% unconsolidated, no show.
- 7720-50** SANDSTONE 100% White, clear, quartzose, very fine to medium grained, sub angular to rounded, fair to poor sorted, clay matrix, siliceous cement, 85% unconsolidated, no show.
- 7750-80** SANDSTONE 100% White, clear, quartzose, very fine to medium grained, sub angular to rounded, fair to poor sorted, clay matrix, siliceous cement, 90% unconsolidated, no show.
- 7780-7800** SANDSTONE 100% Clear, white, fine to medium grained, 90% unconsolidated, sub angular to rounded, fair sorted, clay matrix, siliceous, no show.
- 7800-30** SANDSTONE 100% Clear, white, fine to medium grained, 70% unconsolidated, sub angular to rounded, poor sorted, clay matrix, siliceous, no show.
- 7830-58** SANDSTONE 100% Clear, white, very fine to medium grained, 60% unconsolidated, siliceous, no show.

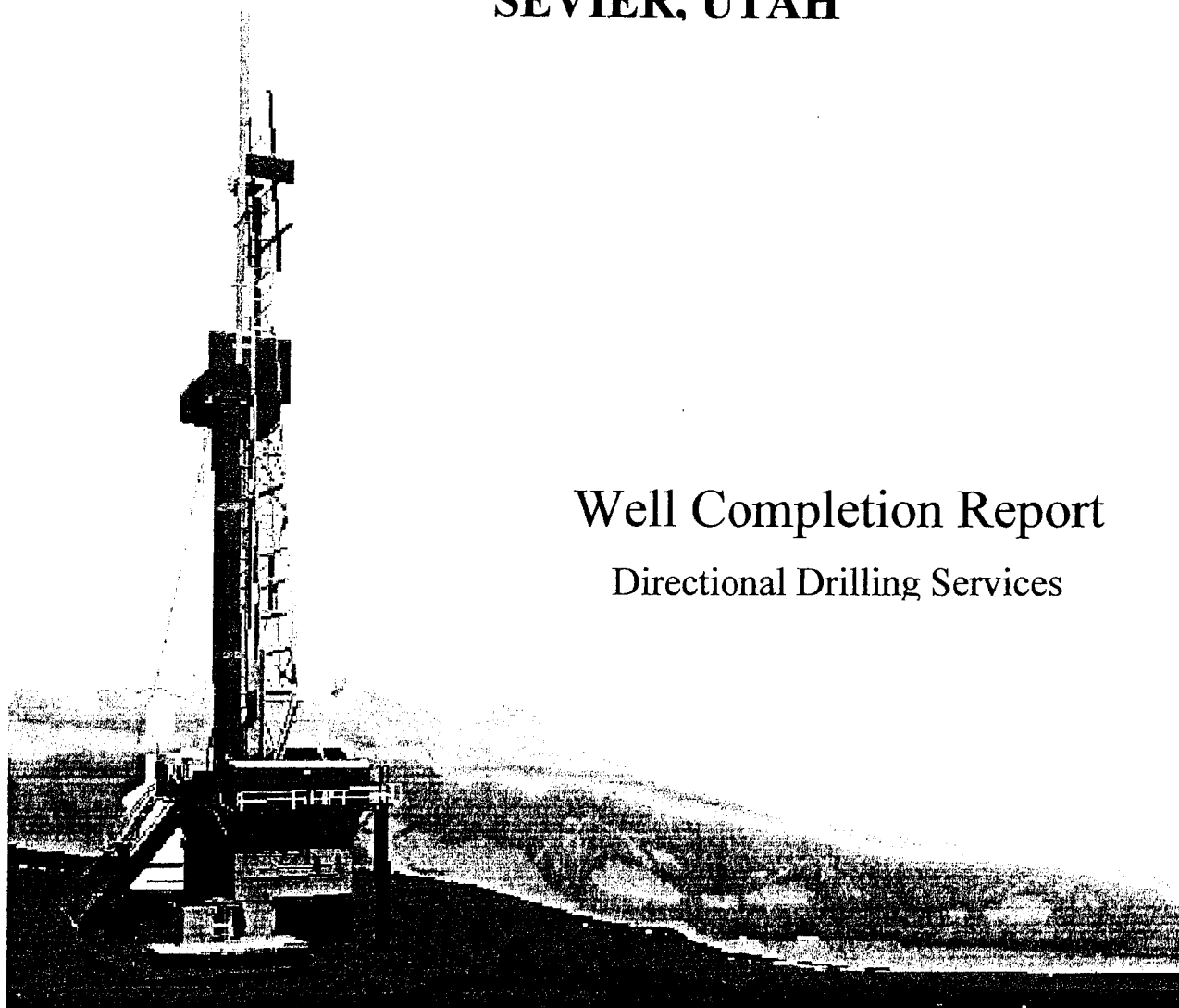


Weatherford

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**WOLVERINE GAS & OIL
FEDERAL #19-1
SEVIER, UTAH**

Well Completion Report
Directional Drilling Services

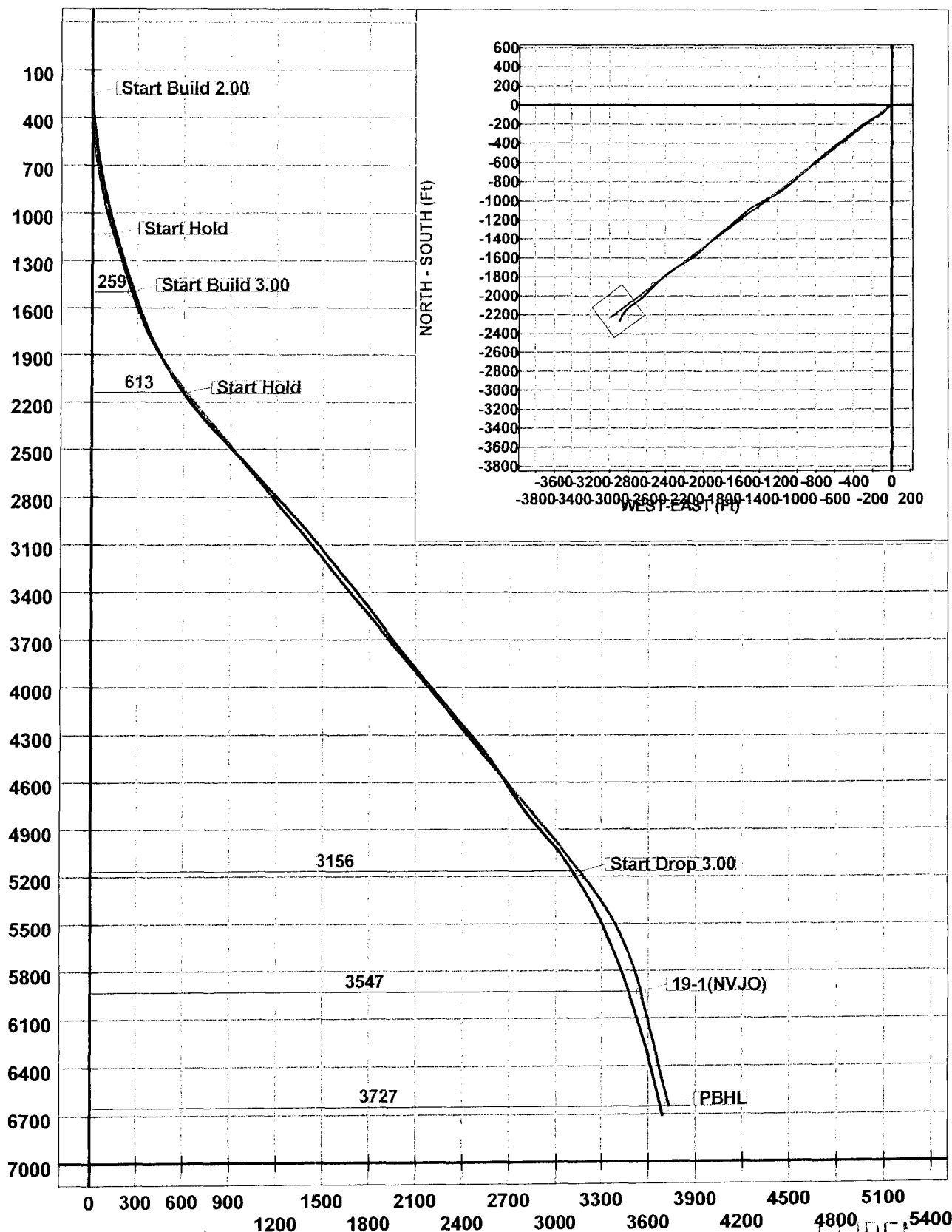


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Company: Wolverine Oil & Gas of Utah, LLC
 Lease/Well: Wolverine Federal 19-1
 Location: Sec 17, T23S, R1W
 State/Country: Sevier Co. Ut.



TRUE VERTICAL DEPTH (Ft)



° - 19-1 - 19-1 Plain

VERTICAL SECTION (Ft) @ 233.32°

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Job Number: WYL0605D080
Company: Wolverine Oil & Gas of Utah, LLC
Lease/Well: Wolverine Federal 19-1
Location: Sec 17, T23S, R1W
Rig Name: Unit # 111
RKB: SHL:798'FSL & 1937'FWL
G.L. or M.S.L.:

State/Country: Sevier Co. Ut.
Declination: 12.82
Grid:
File name: C:\MARSHA~1\ENDOFW~1\WOLVER~1\FE943F~1\19
Date/Time: 23-Aug-05 / 09:23
Curve Name: 19-1

WINSERVE SURVEY CALCULATIONS
Minimum Curvature Method
Vertical Section Plane 233.32
Vertical Section Referenced to Wellhead
Rectangular Coordinates Referenced to Wellhead

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	Vertical Section FT	N-S FT	E-W FT	Dogleg Severity Deg/100	BUILD RATE Deg/100	WALK RATE Deg/100
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
175.00	.30	263.30	175.00	.40	-.05	-.46	.17	.17	-55.26
264.00	2.30	262.80	263.97	2.15	-.30	-2.46	2.25	2.25	-.56
357.00	5.30	257.90	356.76	7.69	-1.44	-8.51	3.24	3.23	-5.27
447.00	6.70	251.90	446.26	16.44	-3.94	-17.57	1.70	1.56	-6.67
538.00	7.20	236.20	536.60	27.17	-8.76	-27.35	2.15	.55	-17.25
630.00	8.90	223.90	627.70	39.95	-17.10	-37.08	2.62	1.85	-13.37
720.00	11.30	215.50	716.30	55.22	-29.30	-47.03	3.12	2.67	-9.33
812.00	12.30	218.80	806.36	73.29	-44.27	-58.40	1.31	1.09	3.59
903.00	13.90	220.20	894.99	93.31	-60.18	-71.53	1.79	1.76	1.54
994.00	15.70	221.80	982.96	116.03	-77.71	-86.80	2.03	1.98	1.76
1088.00	15.10	234.50	1073.62	140.74	-94.30	-105.25	3.64	-.64	13.51
1182.00	15.90	243.30	1164.21	165.66	-107.20	-126.72	2.64	.85	9.36
1277.00	18.40	236.60	1254.99	193.45	-121.30	-150.87	3.35	2.63	-7.05
1371.00	17.80	243.40	1344.34	222.42	-135.90	-176.11	2.33	-.64	7.23
1466.00	20.00	241.90	1434.22	252.78	-150.06	-203.42	2.37	2.32	-1.58
1560.00	18.60	243.30	1522.93	283.44	-164.37	-231.00	1.57	-1.49	1.49
1652.00	19.60	236.10	1609.88	313.31	-179.57	-256.92	2.78	1.09	-7.83
1747.00	23.50	236.60	1698.22	348.15	-198.89	-285.97	4.11	4.11	.53
1842.00	24.80	237.80	1784.91	386.92	-219.94	-318.64	1.46	1.37	1.26
1937.00	26.10	235.20	1870.69	427.67	-242.48	-352.66	1.80	1.37	-2.74
2031.00	30.00	232.70	1953.63	471.86	-268.53	-388.35	4.33	4.15	-2.66
2126.00	32.90	232.70	2034.67	521.42	-298.57	-427.77	3.05	3.05	.00
2221.00	35.10	232.40	2113.42	574.53	-330.87	-469.94	2.32	2.32	-.32
2315.00	37.40	232.90	2189.22	630.11	-364.58	-514.13	2.47	2.45	.53

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Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	Vertical Section FT	N-S FT	E-W FT	Dogleg Severity Deg/100	BUILD RATE Deg/100	WALK RATE Deg/100
2380.00	39.00	232.90	2240.30	670.30	-388.83	-546.19	2.46	2.46	.00
2472.00	41.80	233.60	2310.36	729.92	-424.49	-593.97	3.08	3.04	.76
2566.00	42.90	233.10	2379.83	793.24	-462.29	-644.77	1.22	1.17	-.53
2661.00	45.20	231.30	2448.10	859.27	-502.79	-696.94	2.76	2.42	-1.89
2755.00	44.60	230.60	2514.69	925.57	-544.59	-748.47	.83	-.64	-.74
2849.00	44.20	228.50	2581.85	991.18	-587.25	-798.51	1.62	-.43	-2.23
2944.00	43.40	228.10	2650.42	1056.69	-630.99	-847.61	.89	-.84	-.42
3039.00	42.30	230.40	2720.07	1121.12	-673.17	-896.53	2.01	-1.16	2.42
3133.00	44.10	231.10	2788.59	1185.40	-713.87	-946.37	1.98	1.91	.74
3227.00	43.30	230.40	2856.55	1250.27	-754.96	-996.66	.99	-.85	-.74
3322.00	42.20	230.10	2926.31	1314.67	-796.19	-1046.24	1.18	-1.16	-.32
3416.00	40.80	229.90	2996.71	1376.85	-836.23	-1093.95	1.50	-1.49	-.21
3511.00	40.20	232.60	3068.95	1438.49	-874.84	-1142.05	1.95	-.63	2.84
3605.00	41.10	240.50	3140.32	1499.52	-908.51	-1193.08	5.56	.96	8.40
3707.00	40.80	242.20	3217.36	1565.71	-940.56	-1251.74	1.13	-.29	1.67
3801.00	39.80	244.10	3289.05	1625.61	-968.02	-1305.97	1.69	-1.06	2.02
3896.00	39.80	242.90	3362.04	1685.46	-995.16	-1360.39	.81	.00	-1.26
3990.00	39.40	240.50	3434.47	1744.73	-1023.55	-1413.14	1.68	-.43	-2.55
4085.00	37.50	235.90	3508.88	1803.55	-1054.62	-1463.34	3.61	-2.00	-4.84
4179.00	37.10	232.60	3583.67	1860.49	-1087.89	-1509.56	2.17	-.43	-3.51
4273.00	38.20	229.70	3658.10	1917.85	-1123.91	-1554.26	2.22	1.17	-3.09
4367.00	38.30	229.60	3731.92	1975.93	-1161.59	-1598.61	.13	.11	-.11
4462.00	38.50	230.10	3806.37	2034.83	-1199.63	-1643.71	.39	.21	.53
4556.00	38.50	231.10	3879.93	2093.27	-1236.78	-1688.93	.66	.00	1.06
4650.00	40.10	230.80	3952.67	2152.76	-1274.28	-1735.16	1.71	1.70	-.32
4744.00	40.30	230.40	4024.47	2213.36	-1312.80	-1782.04	.35	.21	-.43
4838.00	40.40	229.20	4096.11	2274.11	-1352.08	-1828.53	.83	.11	-1.28
4933.00	40.60	229.70	4168.35	2335.66	-1392.19	-1875.41	.40	.21	.53
5027.00	42.10	230.10	4238.91	2397.65	-1432.19	-1922.91	1.62	1.60	.43
5122.00	41.20	229.70	4309.89	2460.67	-1472.85	-1971.20	.99	-.95	-.42
5216.00	39.80	227.80	4381.37	2521.52	-1513.09	-2017.11	1.99	-1.49	-2.02
5311.00	36.00	229.00	4456.32	2579.65	-1551.84	-2060.72	4.07	-4.00	1.26
5405.00	30.90	233.30	4534.74	2631.37	-1584.42	-2100.95	5.98	-5.43	4.57
5500.00	33.00	238.00	4615.36	2681.56	-1612.71	-2142.46	3.43	2.21	4.95
5594.00	34.00	239.60	4693.74	2733.20	-1639.58	-2186.84	1.42	1.06	1.70
5689.00	36.10	238.50	4771.51	2787.49	-1667.64	-2233.62	2.31	2.21	-1.16
5783.00	40.70	235.50	4845.16	2845.73	-1699.49	-2282.52	5.28	4.89	-3.19
5878.00	40.80	233.40	4917.14	2907.72	-1735.54	-2332.97	1.45	.11	-2.21
5972.00	40.50	234.50	4988.45	2968.95	-1771.58	-2382.47	.83	-.32	1.17
6067.00	39.40	232.00	5061.29	3029.94	-1808.06	-2431.35	2.05	-1.16	-2.63
6160.00	36.10	228.10	5134.82	3086.75	-1844.54	-2475.02	4.38	-3.55	-4.19
6256.00	32.80	223.60	5213.99	3140.57	-1882.28	-2514.02	4.34	-3.44	-4.69
6350.00	31.10	223.80	5293.74	3189.61	-1918.24	-2548.38	1.81	-1.81	.21
6444.00	28.90	225.20	5375.15	3236.05	-1951.77	-2581.31	2.46	-2.34	1.49
6546.00	25.40	227.30	5465.89	3282.22	-1983.99	-2614.88	3.56	-3.43	2.06

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Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	Vertical Section FT	N-S FT	E-W FT	Dogleg Severity Deg/100	BUILD RATE Deg/100	WALK RATE Deg/100
6640.00	23.60	229.70	5551.43	3321.05	-2009.83	-2644.05	2.19	-1.91	2.55
6735.00	22.70	232.00	5638.78	3358.36	-2033.42	-2673.00	1.34	-.95	2.42
6861.00	20.80	235.20	5755.81	3405.03	-2061.16	-2710.53	1.78	-1.51	2.54
6962.00	19.90	234.70	5850.51	3440.14	-2081.32	-2739.29	.91	-.89	-.50
7007.00	18.90	233.10	5892.95	3455.08	-2090.13	-2751.37	2.52	-2.22	-3.56
7095.00	17.90	231.30	5976.45	3482.85	-2107.14	-2773.32	1.31	-1.14	-2.05
7190.00	18.20	232.40	6066.78	3512.27	-2125.32	-2796.47	.48	.32	1.16
7284.00	17.20	225.70	6156.33	3540.73	-2143.99	-2818.05	2.41	-1.06	-7.13
7379.00	16.40	216.70	6247.29	3567.51	-2164.55	-2836.12	2.86	-.84	-9.47
7473.00	16.90	215.30	6337.35	3593.22	-2186.34	-2851.95	.68	.53	-1.49
7568.00	16.20	208.50	6428.43	3618.38	-2209.26	-2866.25	2.17	-.74	-7.16
7662.00	15.20	205.10	6518.92	3641.14	-2231.94	-2877.74	1.45	-1.06	-3.62
7757.00	14.20	207.20	6610.81	3662.58	-2253.59	-2888.34	1.19	-1.05	2.21
Projection to Bit									
7858.00	14.20	207.20	6708.72	3684.82	-2275.62	-2899.67	.00	.00	.00

7741

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